



Entergy Nuclear Northeast
Entergy Nuclear Operations, Inc.
Indian Point Energy Center
295 Broadway, Suite 1
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December 18, 2002

Re: Indian Point Unit No. 2
Docket No. 50-247
NL-02-160

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station O-P1-17
Washington, DC 20555-0001

Subject: Response to Request for Additional Information Regarding Sections 1.0, 2.0, 3.0, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 4.0, and 5.0 of the Improved Technical Specifications (ITS) (TAC No. MB4739)

- References:
- 1) Entergy letter (NL-02-016) to NRC, "License Amendment Request (LAR 02-005) Conversion to Improved Standard Technical Specifications," dated March 27, 2002
 - 2) Entergy letter (NL-02-092) to NRC, "Supplement 1 to the Indian Point 2 License Amendment Request for Conversion to Improved Standard Technical Specifications," dated July 10, 2002
 - 3) NUREG 1431, "Standard Technical Specifications Westinghouse Plants," Revision 2, dated April 2001
 - 4) 10 CFR 50.36, "Technical Specifications," as amended
 - 5) NRC letter to Entergy Nuclear Operations, Inc., "Indian Point Nuclear Generating Unit No. 2 – Comments and Request for Additional Information (RAI) Regarding Improved Technical Specification (ITS) Sections 1.0, 2.0, 3.0, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 4.0, and 5.0 (TAC No. MB4739)," dated October 22, 2002
 - 6) Consolidated Edison letter (NL-00-147) to NRC, "Proposed Technical Specification Amendment – Changes to Primary to Secondary Leakage Limits and Steam Generator Tube Inservice Surveillance Requirements," dated December 11, 2000

Dear Sir:

By letter dated March 27, 2002 (Reference 1) as supplemented by letter dated July 10, 2002 (Reference 2), Entergy Nuclear Operations, Inc. (ENO) requested to amend the Indian Point 2 (IP2) Plant Operating License, Appendices A and B, "Technical Specifications." The proposed amendment converts the IP2 Current

ADD

Technical Specifications (CTS) to Improved Technical Specifications (ITS) in accordance with NUREG 1431, "Standard Technical Specifications Westinghouse Plants," (Reference 3), and the Code of Federal Regulations (CFR) (Reference 4).

The U.S. Nuclear Regulatory Commission (NRC) staff reviewing the request has determined that additional information is required to complete its review. The subject request for additional information is dated October 22, 2002 (Reference 5). A list of acronyms that may have been used in this submittal has been provided as Attachment 1 to this letter. Attachment 2 to this letter, "Response to Request for Additional Information Regarding Sections 1.0, 2.0, 3.0, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 4.0, and 5.0 of the Improved Technical Specifications (ITS)," provides ENO's response to the subject request for additional information. The IP2 Actions described in Attachment 2 will be incorporated in a future supplement to the ITS submittal packages.

In letter dated March 27, 2002 (Reference 1), ENO indicated that ITS Section 5.5.7 was adopting the industry-standard regulatory framework for steam generators modeled on the Nuclear Energy Institute (NEI) 97-06, "Steam Generator Program Guidelines." Although this remains ENO's long-term goal (Reference 6) NEI 97-06 has not yet been endorsed by the NRC. Therefore, IP2 will incorporate the existing steam generator tube inspection requirements into ITS Section 5.5.7 (see response to RAI 5.0-1 in Attachment 2 of this letter).

Also, in letter dated March 27, 2002 (Reference 1), ENO requested a Safety Evaluation from the NRC by January 2003. Upon request from the NRC, ENO is changing the requested date for a Safety Evaluation to be issued to June 2003. Based on a 90 day implementation period, this changes the date ENO intends to implement the proposed license amendment to September 2003.

No regulatory commitments are being made by ENO in this correspondence.

Should you or your staff have any questions regarding this matter, please contact the IP2 ITS Project Manager, Mr. William Blair at (914) 734-5336.

I declare under penalty of perjury that the foregoing is true and correct.

Sincerely,



Fred Dacimo
Vice President – Operations
Indian Point 2

Executed on 12/18/02

Attachments

cc: See page 3

cc:

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ATTACHMENT 1 TO NL-02-160

List of Acronyms That May Be Used In This Submittal

Entergy Nuclear Operations, Inc.
Indian Point Unit No. 2
Docket No. 50-247

List of Acronyms That May Be Used In This Submittal

AC	Air Conditioning or Alternating Current
AOT	Allowed Outage Time
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATWS	Anticipated Transient Without Scram
BIT	Boron Injection Tank
CFR	Code of Federal Regulations
CLB	Current License Basis
COLR	Core Operating Limits Report
COT	Channel Operational Test
CST	Condensate Storage Tank
CTS	Current Technical Specification
DB	Design-Basis
DBA	Design-Basis Accident
DC	Direct Current
DG	Diesel Generator
DOC	Discussion of Change (from the CTS)
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
ESF	Engineered Safeguard Feature
FR	Federal Register
GDC	General Design Criteria
HEPA	High Efficiency Particulate Air
Hz	Hertz
IRM	Intermediate Range Monitor
ISI	Inservice Inspection
ITS	Improved (converted) Technical Specifications
JFD	Justification For Difference
kV	Kilovolt
kW	Kilowatt
LAR	Licence Amendment Request
LCO	Limiting Condition for Operation
LOCA	Loss of Coolant Accident
LOOP	Loss of Offsite Power
LOP	Loss of Power
MSIV	Main Steam Isolation Valve
MSLB	Main Steam Line Break
NUMAC	Nuclear Measurement Analysis and Control
PAM	Post-Accident Monitoring
P/T	Pressure/Temperature
QA	Quality Assurance
RAI	Request for Additional Information

RCS	Reactor Coolant System
RG	Regulatory Guide
RHR	Residual Heat Removal
RPS	Reactor Protection System
RPV	Reactor Pressure Vessel
RTP	Rated Thermal Power
SDC	Shutdown Cooling
SDM	Shutdown Margin
SE	Safety Evaluation
SER	Safety Evaluation Report
SR	Surveillance Requirement
SRM	Source Range Monitor
STS	Improved Standard Technical Specification(s), NUREG-1431, Rev. 2
SW	Service Water
TRM	Technical Requirements Manual
TS	Technical Specifications
TSTF	Technical Specifications Task Force (re: generic changes to the STS)

ATTACHMENT 2 TO NL-02-160

**Response to Request for Additional Information Regarding Sections 1.0, 2.0, 3.0,
3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 4.0, and 5.0 of the Improved Technical
Specifications (ITS)**

Entergy Nuclear Operations, Inc.
Indian Point Unit No. 2
Docket No. 50-247

Response to Request for Additional Information

The NRC Staff reviewing information provided in the March 27, 2002 license amendment request as supplemented by letter dated July 10, 2002 has determined that additional information is required to complete its review. The following are the specific requests from the NRC staff and ENO's response to those requests.

2.0 : SAFETY LIMITS (SLs)

NRC RAI Number

TAC Number:

2.0 - 1

MB4739

NRC Request for Additional Information (RAI):

ITS 2.0 SAFETY LIMITS

STS 2.1.1.2 Peak Centerline Temperature Safety Limit

CTS 2.1.1

DOCs LA.1 and M.1

JFD DB.1

The STS SL2.1.1.2 on Peak Centerline Temperature is not included in the ITS.

Comment: Why isn't the SL on PCT included?

Entergy (IP2) Response:

IP2 current technical specifications do not explicitly identify Peak Centerline Temperature as a safety limit. Although, chapter 14 of the IP2 Final Safety Analysis Report does specify that "the peak fuel centerline temperature will remain below the fuel melting temperature" during analyzed accidents, the limit for peak fuel centerline temperature needed to avoid this condition is not identified. Therefore, IP2 has elected not to explicitly identify a limit for peak fuel centerline temperature in the improved Technical Specifications.

Entergy (IP2) Action:

None required.

2.0 : SAFETY LIMITS (SLs)

NRC RAI Number

2.0 - 2

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

ITS 2.0 SAFETY LIMITS BASES

ITS B2.1.2

STS B2.1.2

APPLICABLE SAFETY ANALYSES

In the first sentence of the third paragraph of the ITS B2.1.2 APPLICABLE SAFETY ANALYSES, the word "setpoints" has been replaced by "allowable values," without justification.

Comment: Provide justification for the change. "Setpoints" are the trip settings that provide the protection, while the "allowable values" are the actual limits, and therefore the STS wording is correct.

Entergy (IP2) Response:

NUREG-1431, Bases for Section 2.1.1, states that: "The Reactor Trip System setpoints (Ref. 2), in combination with all the LCOs, are designed to prevent any anticipated combination of transient conditions for Reactor Coolant System (RCS) temperature, pressure, RCS Flow, delta I, and THERMAL POWER level that would result in a departure from nucleate boiling ratio (DNBR) of less than the DNBR limit and preclude the existence of flow instabilities."

NUREG-1431, Bases for Section 2.1.2, states that: "The Reactor Trip System 'setpoints' (Ref. 5), together with the settings of the MSSVs, provide pressure protection for normal operation and AOOs. The reactor high pressure trip 'setpoint' is specifically set to provide protection against overpressurization (Ref. 5)."

Regulatory Guide 1.105, "Setpoints for Safety-Related Instrumentation," specifies that: "For the standard technical specifications, the staff designated the allowable value as the LSSS. In association with the trip setpoint and limiting conditions for operation (LCOs), the LSSS establishes the threshold for protective system action to prevent acceptable limits being exceeded during design basis accidents. The LSSS therefore ensures that automatic protective action will correct the abnormal situation before a safety limit is exceeded."

IP2 believes the Bases for Section 2.0 of NUREG-1431 is using the term setpoint as a generic description of point at which a protective function will actuate and that the use of either the LSSS or allowable value is more precise and less likely to cause confusion. Therefore, IP2 will substitute the term "allowable value" for "setpoint" throughout the Bases for ITS Section 2.0.

Entergy (IP2) Action:

IP2 will substitute the term "allowable value" for "setpoint" throughout the Bases for ITS Section 2.0 and provide a JFD to describe the difference.

3.1.4 : Rod Group Alignment Limits

NRC RAI Number

TAC Number:

3.1.4 - 1

MB4739

NRC Request for Additional Information (RAI):

ITS 3.1.4 ROD GROUP ALIGNMENT LIMITS

STS 3.1.4 ROD GROUP ALIGNMENT LIMITS

ITS LCO 3.1.4.b and various ITS BASES Insert Changes

DOC L.4

JFDs X.1, DB.1 and DB.2

ITS LCO 3.1.4.b and various ITS BASES Insert Changes include information that is only relevant to Cycle 15. DOC L.4 states, "Therefore, prior to startup of each fuel cycle, these calculations need to be repeated to ensure that core peaking factors will not be exceeded when there is an indicated misalignment of plus or minus 24 steps between individual rod positions and the group step counter demand position when operating less than or equal to 50% RTP."

Comment: "These calculations," are they not performed in accordance with an (NRC approved) methodology? This appears to be information that should be placed in the COLR; otherwise, ENTERGY will be submitting an LAR for approval before the beginning of every cycle. This is unusual for an STS plant. Can a bounding limit be used?

Entergy (IP2) Response:

IP2 License Amendment Request (LAR) No. 02-010 provided justification for elimination of cycle specific requirements for rod group alignment limits. LAR No. 02-010 was approved as CTS Amendment 234 on November 7, 2002. IP2 will incorporate CTS Amendment 234 into the ITS.

Entergy (IP2) Action:

IP2 will incorporate CTS Amendment 234 into the ITS.

3.1.4 : Rod Group Alignment Limits

NRC RAI Number

TAC Number:

3.1.4 - 2

MB4739

NRC Request for Additional Information (RAI):

ITS 3.1.4 ROD GROUP ALIGNMENT LIMITS

STS 3.1.4 ROD GROUP ALIGNMENT LIMITS

ITS APPLICABILITY Note

DOC L.5

JFD X.1

The ITS adds a note to the APPLICABILITY statement that states, "Indicated rod position is not required to meet group alignment limits until 1 hour after completion of control rod movement."

Comment: The note is related to rod position indication, and not the applicability of the LCO, which is on rod alignment as the title indicates. Therefore, the note should appear before SR 3.1.4.1, on verifying rod position, as it does in the IP3 TS. JFD X.1 indicates that the note is added to SR 3.1.4.1; though in fact it is not.

Entergy (IP2) Response:

ITS LCO 3.1.4 and Bases will be revised to include relaxation as a Note to SR 3.1.4.1. Note to SR 3.1.4.1 will read "Not required to be met for individual control rods until 1 hour after completion of control rod movement" which is identical to the presentation used in IP3 ITS.

Entergy (IP2) Action:

IP2 will revise ITS LCO 3.1.4 and SR 3.1.4.1 and associated Bases as described above.

3.1.4 : Rod Group Alignment Limits

NRC RAI Number

TAC Number:

3.1.4 - 3

MB4739

NRC Request for Additional Information (RAI):

ITS 3.1.4 ROD GROUP ALIGNMENT LIMITS

STS 3.1.4 ROD GROUP ALIGNMENT LIMITS

ITS SR 3.1.4.3

JFD CLB.2

The wording for ITS SR 3.1.4.3, to verify the rod drop time of each rod, is changed from the STS version of, "... from the beginning of decay of stationary gripper coil voltage to dashpot entry, ..." to ready, "... from the gripper release to dashpot entry, ...". The IP3 SR reads, "...from the loss of stationary gripper coil voltage to dashpot entry, ...".

Comment: Why is the IP2 SR different?

Entergy (IP2) Response:

IP2 CTS 3.10.8 specifies that "the drop time of each control rod shall be no greater than 2.4 seconds from gripper release to dashpot entry." For IP2, the rod testing procedure (PT-R-4A) initiates rod drop by opening the reactor trip breakers. Opening of the reactor trip breakers is conservatively taken as the initiation of the rod drop and therefore the measured rod drop time very conservatively includes some time that is actually part of the "delay time to trip," as defined in the UFSAR.

IP3 CTS 3.10.8 (Prior to conversion to ITS) specified that "the drop time of each control rod shall be no greater than 1.8 seconds from the loss of stationary gripper coil voltage to dashpot entry." For Unit 3, the rod testing procedure (3PT-R004 Rev. 17) initiates rod release by pulling the fuse to each rods individual stationary gripper coil. This time is taken on the instrument trace as the initiation of rod drop and for test purposes is included in the rod drop time. A typical rod drop timing trace (included as Attachment 3 to 3PT-R004) shows that the loss of control rod power voltage typically occurs just a few cycles after drop initiation based on a 60 hertz timing trace.

STS (NUREG-1431), SR 3.1.4.3 requires verification of rod drop time "from the beginning of decay of stationary gripper coil voltage to dashpot entry."

During the conversion of the IP2 and the IP3 CTS to the ITS it was elected to retain the existing CTS language for both Units to avoid any confusion that may have resulted during ITS implementation if different wording (NUREG 1431) had been adopted for rod drop time testing. Adoption of different wording would have required an explanation for the change and may have created the impression that changes to the current testing methodology were required.

Entergy (IP2) Action:

None

3.1.4 : Rod Group Alignment Limits

NRC RAI Number

TAC Number:

3.1.4 - 4

MB4739

NRC Request for Additional Information (RAI):

ITS 3.1.4 ROD GROUP ALIGNMENT LIMITS

LCO, Control Rod Misalignment Limits

Adoption of IP2 LAR No. 02-010

IP2 License Amendment Request (LAR) No. 02-010, to change CTS requirements for control rod misalignment and rod position indication, is not incorporated into the ITS conversion request.

Comment: Upon approval of IP2 LAR No. 02-010, update the ITS submittal.

Entergy (IP2) Response:

IP2 LAR No. 02-010 was approved as CTS Amendment 234 on November 7, 2002. IP2 will incorporate CTS Amendment 234 into ITS LCO 3.1.4 and forward to the NRC following internal review and approval.

Entergy (IP2) Action:

IP2 LAR No. 02-010 was approved as CTS Amendment 234 on November 7, 2002. IP2 will incorporate CTS Amendment 234 into ITS LCO 3.1.4 and forward to the NRC following internal review and approval.

3.1.7 : Rod Position Indication

NRC RAI Number

TAC Number:

3.1.7 - 1

MB4739

NRC Request for Additional Information (RAI):

ITS 3.1.7 ROD POSITION INDICATION

STS 3.1.7 ROD POSITION INDICATION

REQUIRED ACTIONS A and B, COMPLETION TIMES

DOC A.6

JFD CLB.1

The IP2 proposed COMPLETION TIMES for REQUIRED ACTIONS A and B are changed from the 8 hours in the STS to 12 hours, based upon the CTS frequency of once per shift being defined as "at least twice per calendar day." The IP3 COMPLETION TIMES are 8 hours, consistent with the STS. Comment: Are IP2 shifts 8 or 12 hours? Aren't IP2 and IP3 shifts the same length? Why weren't the COMPLETION TIMES for REQUIRED ACTIONS D also proposed to be 12 hours; shouldn't they be consistent?

Entergy (IP2) Response:

CTS Table 1-1 defines "Shift (S)" as "At least twice per calendar day." Therefore, the requirement in CTS 3.10.6.1.a that the "control rod shall be checked indirectly by core instrumentation ... every shift" is interpreted to require that the verification is completed every 12 hours. The Frequency is not affected by the actual length of a shift. Therefore, the completion Times for IP2 ITS Required Actions A.1, A.2 and B.3 were maintained at 12 hours based on current licensing basis. IP2 is maintaining the Completion Time in CTS 3.10.6.1.a to minimize challenges to the movable incore detector system. The 12 hour Completion Time is acceptable for the following reasons:

- 1) IP2 has reduced the completion time from 12 hours to 4 hours for verification of rod position after rod movement of greater than 24 steps (See ITS 3.1.7, Required Action C.1 and DOC M.5); and
- 2) IP2 has not had a problem with rods drifting from the bank position when control rod groups are not being moved.

ITS 3.1.7, Condition D, is a new allowance permitting continued operation with inoperable demand position indication for one or more banks. CTS does not have this allowance and relaxation is unrelated to requirements for IRPIs in CTS 3.10.6.1. IP2 adopted the 8 hour Completion Time in the STS (NUREG-1431) because there is no current requirement.

Entergy (IP2) Action:

None

3.2.4 : QUADRANT POWER TILT RATIO (QPTR)

NRC RAI Number

TAC Number:

3.2.4 - 1

MB4739

NRC Request for Additional Information (RAI):

ITS 3.2.4 QUADRANT POWER TILT RATIO (QPTR)

STS 3.2.4 QUADRANT POWER TILT RATIO (QPTR)

SR 3.2.4.2

JFD CLB.?

The proposed frequency for IP2 ITS SR 3.2.4.2 is 24 hours, versus 12 hours in the STS, based upon CTS.

Comment: The CLB justification is not provided. The CTS 24 hour requirement is not readily apparent; where is the CTS requirement?

Entergy (IP2) Response:

Markup of NUREG-1431 for SR 3.2.4.2 references CTS 3.10.2.9. Markup of CTS 3.10.2.9 references ITS 3.2.4.2. CTS 3.10.2.9 provides justification for the 24 hour Frequency because it states: "If the core is operating above 75% power with one excore nuclear channel out of service, then core quadrant power balance shall be determined 'once a day' using movable incore detectors."

Entergy (IP2) Action:

None

3.3 : INSTRUMENTATION

NRC RAI Number

TAC Number:

3.3 - 1

MB4739

NRC Request for Additional Information (RAI):

Provide draft ITS Safety Evaluation discussion of change tables to show the format and content of A-DOC, M-DOC, L-DOC, LA-DOC and R-DOC tables.

Entergy (IP2) Response:

Draft copies of the SER Tables were provided to the NRC staff by electronic mail on 11/13/2002.

Entergy (IP2) Action:

Draft copies of the SER Tables were provided to the NRC staff by electronic mail on 11/13/2002.

3.3 : INSTRUMENTATION

NRC RAI Number

TAC Number:

3.3 - 2

MB4739

NRC Request for Additional Information (RAI):

Provide justification for deviation for proposed Bases changes.

Entergy (IP2) Response:

IP2 reviewed all of the highlighted items in the IP2 markup of the Bases for ITS 3.3.1 and provides the following responses:

1. Items related to setpoints and allowable values are consistent with the IP2 setpoint methodology documented in IP2 Specification No. FIX-95-A-001, "Guidelines For Preparation Of Instrument Loop Accuracy And Setpoint Determination Calculations," Revision 1. The NRC is currently reviewing this methodology. These issues will be addressed after the NRC review of the methodology is completed.
2. IP2 analyses of the radiological consequences of accidents conform with 10 CFR 50.67, Accident Source Term. These revised radiological consequence analyses were reviewed in Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Amendment No. 211 to Facility Operating License No. DPR-26, July 27, 2000.
3. Other Bases item need to be resolved in a discussion between IP2 and the NRC reviewer.

Entergy (IP2) Action:

Bases item need to be resolved in a discussion between IP2 and the NRC reviewer.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 1

MB4739

NRC Request for Additional Information (RAI):

Item 1

CTS 3.5.3 and 3.5.4

ITS per DOC M.01

Change M.01 states CTS 3.5.3 and 3.5.4 bypass allowance "for a short period of time" means "12 hours" (as allowed by WCAP-14333) for some RPS functions and "4 hours" (as allowed by WCAP-10271) for other RPS functions. Provide plant procedures for staff review which direct operators to use these bypass allowance interpretations.

Entergy (IP2) Response:

The SER associated with IP2 CTS Amendment 212, dated November 30, 2000, approved adoption of allowable out of service times (AOTs) consistent with WCAP-14333-P-A, Rev.1, 'Probabilistic Risk Analysis of the RPS and ESFAS Test Times and Completion Times.' Conformance with the requirements of WCAP-10271 is a prerequisite for adopting WCAP-14333.

The SER associated with IP2 CTS Amendment 154, dated November 30, 2000, approved adoption of testing in bypass for those functions that have installed bypass capability. Additionally, this SER approved extending surveillance test intervals for channel functional tests from monthly to 92 days based on the verification that IP2 instrumentation systems conformed to WCAP-10271. A copy of CTS Amendment 154 including the associated SER was provided to the NRC on July 16, 2002.

CTS 3.5.3 provides the allowance for testing and maintenance in bypass without restricting IP2 to the time limits specified in WCAP-14333 and CTS 3.5.4 allows bypassing an inoperable channel in trip for testing of other channels using the term 'a short period of time' instead of the time limits specified in WCAP-14333. However, the CTS Bases (Page 3.5-6) provide the clarification that time in Bypass is limited to the times in WCAP-14333. The Applicable excerpt from the CTS Bases follow:

"The Functional Units having risk informed AOTs are identified with either (1) or (2) in column 6 of Tables 3.5-2 through 3.5-4. Risk informed AOTs for analog channels (72 hours) and logic channels (24 hours) are based on the analysis provided in Reference 5. Specification 3.5.3 allows the minimum degree of redundancy to be reduced by one for on-line testing (and corrective maintenance for inoperable instrumentation discovered during the surveillance testing) of instruments with installed bypass capability. For analog channels, this test bypass allowance is limited to 12 hours consistent with Reference 5. For logic channels, this test bypass allowance is limited to eight hours as provided in Note # of Tables 3.5-2 and 3.5-3 and consistent with Reference 5. At the end of this test bypass allowance, the requirements of Tables 3.5-2 through 3.5-4 and associated notes must be complied with. The test bypass allowance does not apply to the performance of preventative maintenance or performance of maintenance for inoperable instrumentation discovered by other means than the performance of a surveillance test." Note that Reference 5 is WCAP-14333, "Probabilistic Risk Analysis of the RPS and ESFAS Test Times and Completion Times"

IP2 will revise ITS 3.3.1, DOC M.01, and ITS 3.3.2, DOC M.1, to further clarify that the ITS adoption of the allowable out of service times (AOTs) from WCAP-1433 in the Technical Specifications (rather than the Bases) is a more restrictive change because it creates explicit Technical Specification limits for instrumentation AOTs that were approved by IP2 CTS Amendment 212.

Entergy (IP2) Action:

IP2 will revise ITS 3.3.1, DOC M.01, and ITS 3.3.2, DOC M.1, to further clarify that the ITS adoption of the allowable out of service times (AOTs) from WCAP-1433 in the Technical Specifications (rather than the Bases) is a more restrictive change because it creates explicit Technical Specification limits for instrumentation AOTs that were approved by IP2 CTS Amendment 212.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

3.3.1 - 3

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

Item 3

CTS Table 3.5.2

ITS - none

DOCs A.3.c, A.3.d, A.4.d, A.5.d, A.6.c, A.7.c, A.9.d, A.10.d, A.11.d, A.12.d, A.13.d, A.14.d, A.15.d, A.15.d (sic), A.16.d, A.17.d, A.18.d, A.20.d, A.27.c, A.27.d, and A.29.d

Provide a new M-DOC to justify the change to ITS Condition "Be in Mode 3 in 6 hours" from CTS Table 3.5-2, be in Shutdown per LCO 3.0.1 in 7 hours.

Entergy (IP2) Response:

For various reactor protection system functions, CTS Table 3.5-2 requires that the plant "maintain hot shutdown" if requirement for minimum number of channels is not met; however, the completion time to reach hot shutdown is not specified. Therefore, completion times specified in CTS 3.0.1 would govern and CTS Table 3.5-2 would be interpreted as requiring that the plant is in hot shutdown (i.e., Mode 3) within 7 hours.

Under the same conditions (i.e., minimum level of redundancy not restored within the 72 hour AOT), ITS LCO 3.3.1, Required Actions, requires that the plant be in Mode 3 within 6 hours after the AOT has elapsed. IP2 interpreted this as an administrative change with no impact on safety because 6 hours is a reasonable interpretation of the existing requirement in CTS Table 3.5-2 to "maintain hot shutdown."

IP2 will revise ITS 3.3.1, DOCs A.4.d, A.5.d, A.9.d, A.10.d, DOC A.11.d, A.12.d, A.13.d, A.14.d, A.15.d, A.16.d, A.17.d, A.18.d, A.27.d, A.29.d, to explain that reducing the Completion Time to reach Mode 3 (or reduce the reactor power to below the Applicability for the function) is a more restrictive change that will be justified in DOC M.14.

The change described above does not apply to ITS 3.3.1, DOCs A.3.c, A.3.d, A.6.c, A.7.c, A.20.d and A.27.c for the following reasons:

DOC A.3.c and DOC A.3.d address the new requirement for two channels of the manual trip function. DOC M.03 describes and justifies new Required Actions associated with the expanded Applicability for reactor manual trip function and DOC M.02 describes and justifies new Required Actions associated with increased number of required channels for this function.

DOC A.6.c address new requirements for the loss of the Intermediate Range RPS trip function. The new requirement that power be reduced to less than the P-6 setpoint (instead of to Mode 3 as required by the CTS) is a less restrictive change justified in DOC L.4.

DOC A.7.c address new requirements for the loss of the Intermediate Range RPS trip function. The new requirement that the reactor trip breakers are opened immediately when the one required Source Range Neutron Flux (trip) channel becomes inoperable is a more restrictive change that is justified in

DOC M.05.

DOC A.20.d addresses the fact that no completion time is specified in CTS for the required reduction in power to less than the P-8 setpoint (i.e., less than 35% F.P.) when the reactor trip on turbine trip is not Operable. Under the same conditions (i.e., minimum number of channels or minimum level of redundancy not met within the completion time for placing a channel in trip), ITS LCO 3.3.1, Required Actions, allows 4 hours to reduce power to less than the P-8 setpoint. IP2 believed this is an administrative change with no impact on safety because allowing 4 hours to reduce reactor power to less than the P-8 setpoint is a reasonable interpretation of the existing requirements.

DOC A.27.c addresses the fact that no completion time is specified in CTS to restore an inoperable reactor trip breaker. Under the same conditions, ITS LCO 3.3.1, Required Action L.1, allows 1 hour to restore an inoperable RTB when in Modes 1 or 2; otherwise, the plant must be placed in Mode 3 within the following 6 hours. IP2 believes this is an administrative change with no impact on safety because one hour to complete this task is a reasonable interpretation of the existing requirement. This is supported by the fact that if the action is not taken, then CTS 3.0.1 (ITS 3.0.3) would require that the plant be in Mode 3 within a total of 7 hours.

Entergy (IP2) Action:

IP2 will revise ITS 3.3.1, DOCs A.4.d, A.5.d, A.9.d, A.10.d, DOC A.11.d, A.12.d, A.13.d, A.14.d, A.15.d, A.16.d, A.17.d, A.18.d, A.27.d, A.29.d, to explain that reducing the Completion Time to reach Mode 3 (or reduce the reactor power to below the Applicability for the function) is a more restrictive change that will be justified in DOC M.14.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 7

MB4739

NRC Request for Additional Information (RAI):

Item 7

CTS 2.3.2.A(2), P-7 (Interlock Turbine 1st Stage Pressure)

Provide DOC justification changes to "10% turbine power" from "10% equivalent full load"

Entergy (IP2) Response:

CTS 2.3.2.A.(2) specifies that Turbine First Stage Pressure (P-7 Input) interlock must enable the reactor trips on low pressurizer pressure, high pressurizer level, and low reactor coolant flow for two or more loops when Turbine first stage pressure >10% "of equivalent full load." Turbine First Stage Pressure (P-7 Input) function takes advantage of the fact that turbine first stage pressure tracks total turbine power output very closely. Unless steam is being dumped (e.g., SG safety valves, atmospheric dump valves, turbine bypass to the condenser), turbine power is an excellent proxy for reactor thermal power. Note, however, that Turbine First Stage Pressure (P-7 Input) is only one of two interlocks that enable the reactor protection system trips listed above at approximately 10% reactor power. The other interlock, P-10 which is also an input to P-7, uses power range neutron flux as the basis for enabling the reactor protection system trips listed above. These trips are enabled at approximately 10% reactor power.

ITS 3.3.1, Function 17.e, Turbine First Stage Pressure (P-7 Input), maintains the requirement in CTS 2.3.2.A.(2); however, ITS 3.3.1, Function 17.e, expresses the allowable value for this interlock as percent "turbine power" versus the use of percent "equivalent full load."

The combination of the function name, Turbine First Stage Pressure (P-7 Input), and the description, "turbine power" or "equivalent full load," explain that the allowable value must be established as a proxy for reactor thermal power and the descriptive terms are interchangeable.

Entergy (IP2) Action:

IP2 will revise ITS 3.3.1, DOC A.26.f, to include the clarification provided above.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 8

MB4739

NRC Request for Additional Information (RAI):

Item 8

CTS 2.3.2.C

ITS Table 3.3.1-1, #15, 17.c, and 15(h)

Provide additional justification for translating the CTS reference above to the ITS functions. Also discuss assigning ITS P-8 to 60% RTP per CTS 2.3.2.B and 35% RTP per CTS 2.3.2.C.

Entergy (IP2) Response:

CTS 2.3.2.B states: "The single loop loss of flow reactor trip may be bypassed when the power range nuclear instrumentation indicates <60% of rated power." This means that various functions that cause a reactor trip on loss of flow must actuate on loss of flow in one loop when above 60% RTP and must actuate on a loss of flow in two loops when below 60% RTP. The reactor trips affected by this interlock are the Loss of flow function required by CTS 2.3.1.B (6)(a) and CTS Table 3.5-2, Function 10; RCP Under Voltage required by CTS 2.3.1.B (7) and CTS Table 3.5-2, Function 12; RCP Underfrequency required by CTS 2.3.1.B (6)(b) and CTS Table 3.5-2, Function 13; and, RCP Breaker Position (Implicit in CTS in the requirement for RCP Underfrequency).

IP2 UFSAR 7.2.5.1.10 provides the following explanation: "Technical Specification 2.3.2.B allows the single loop loss of flow trip to be bypassed whenever reactor power is below 60-percent power. However, since the P-8 permissive is used to accomplish this bypass, it is only in effect below approximately 20-percent power (P-8 setpoint). Below this setpoint and above the permissive setpoint P-7, a loss of flow in two loops would cause a reactor trip." This means that if the P-8 function (2 out of 4 Power Range Instruments) controlled only the loss of flow interlock, then CTS 2.3.2.B would allow the P-8 allowable value to be set as high as 60% RTP. However, IP2 does not have a P-9 interlock and uses the P-8 interlock to perform the function that is assigned to P-9 at other plants. The following explains the role of P-8 as a substitute for P-9.

CTS 2.3.2.C states: "The anticipatory reactor trip upon turbine trip shall be unblocked when the power range nuclear instrumentation indicates >35% of rated power."

UFSAR 7.2.5.1.18 provides the following explanation: "A turbine trip is sensed by two-out-of-three signals from auto-stop oil pressure. At or above 35-percent power, a turbine trip requires a reactor trip per Technical Specification 2.3.2.C; below 35-percent power, this trip may be blocked. The current "at-power" reactor trip is automatically blocked upon a turbine trip at less than approximately 20-percent power (P-8)."

IP2 will revise the markup of CTS 2.3.2.C, the markup of STS (NUREG-1431) Table 3.3.1-1, Function 15, and the typed version of IP2 ITS Table 3.3.1-1, Function 15, to show that the footnote for the IP2 ITS Table 3.3.1-1, Function 15, is (f) and not (h).

Entergy (IP2) Action:

IP2 will revise the markup of CTS 2.3.2.C, the markup of STS (NUREG-1431) Table 3.3.1-1, Function 15, and the typed version of IP2 ITS Table 3.3.1-1, Function 15, to show that the footnote for the IP2 ITS Table 3.3.1-1, Function 15, is (f) and not (h).

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 9

MB4739

NRC Request for Additional Information (RAI):

Item 9

CTS 3.5.2, DOC A.30

The discussion of equivalent requirements in ITS and CTS 3.5.2 (page 3.5-1) is inaccurate. Revise as an L-DOC

Entergy (IP2) Response:

CTS 3.5.2 specifies that "plant operation shall be permitted to continue in accordance with Tables 3.5-2 through 3.5-4. No more than one channel of a particular protection channel set shall be tested at the same time. By definition, an instrumentation channel failure shall not be regarded as a channel being tested."

The first sentence, "plant operation shall be permitted to continue in accordance with Tables 3.5-2 through 3.5-4," refers to requirements to maintain both a minimum number of operable channels and a minimum degree of redundancy as defined in CTS 1.5, Degree of Redundancy. Basically, this means that operation may continue with up to one inoperable channel if the inoperable channel is placed in trip within the allowable out of service time. This is explained in ITS 3.3.1, DOC A.33. ITS 3.3.1, Required Actions, maintain identical requirements which are explained in detail in DOCs A.03.c and A.03.d through A.29.c and A.29.d. Any differences between the CTS and the ITS for a specific function are identified in these DOCs and justified in an associated M DOC or L DOC.

The second sentence, "No more than one channel of a particular protection channel set shall be tested at the same time," is intended to ensure that a channel being tested is treated as inoperable. As explained above and in ITS 3.3.1, DOC A.33, CTS Tables 3.5-2 through 3.5-4 permit no more than one channel to be inoperable at one time except as allowed in CTS 3.5.4. CTS 3.5.4 allows an inoperable channel that is in trip to be bypassed to permit testing of the remaining operable channels without causing a reactor trip. ITS 3.3.1, Required Actions and associated Notes, maintain identical requirements which are explained in detail in DOCs A.03.c and A.03.d through A.29.c and A.29.d. Any differences between the CTS and the ITS for a specific function are identified in these DOCs and justified in an associated M DOC or L DOC.

The third sentence, "By definition, an instrumentation channel failure shall not be regarded as a channel being tested," is intended to prevent the assumption that operators can delay or avoid taking the actions for an inoperable channel by treating the failed channel as a channel being tested. ITS 3.3.1, Required Actions and associated Notes, in combination with the ITS definition of Operability will prevent treating an inoperable channel as a channel in test.

Based on the above, deletion of CTS 3.5.2 is an administrative change because ITS will maintain equivalent restrictions preventing "more than one channel of a particular protection channel set shall be tested at the same time" and ensuring that a "channel failure shall not be regarded as a channel being tested."

Entergy (IP2) Action:

IP2 will revise ITS 3.3.1, DOC A.30 to include the discussion above and will mark DOC L.2 as "Not Used."

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 10

MB4739

NRC Request for Additional Information (RAI):

Item 10

CTS 3.5.2, DOC L.2

The staff disagrees that deleting the text identified as "L.2" is related to LCO 3.0.5 (an exception to LCO 3.0.2), instead this change is related to the definition of OPERABILITY and should be evaluated as such.

Entergy (IP2) Response:

This RAI is addressed in the response to RAI 3.3.1-9.

Entergy (IP2) Action:

This RAI is addressed in the response to RAI 3.3.1-9.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 11

MB4739

NRC Request for Additional Information (RAI):

Item 11

CTS Table 3.5-2, No. 2, DOC A.4.c

ITS 3.3.1, Action D, JFD X.1

This proposed NUREG deviation replaces Actions D.1.2, D.2.1 and D.2.2 with new ITS Note 2. The proposed Note reference to QPTR SR 3.2.4.2 does not result in a requirement to perform the surveillance and the staff notes that the proposed ITS adopts the NUREG QPTR LCO.

Revise the ITS to adopt the NUREG Actions D.1.2, D.2.1 and D.2.2.

Entergy (IP2) Response:

IP2 ITS does not adopt STS (NUREG-1431) LCO 3.3.1, Required Actions D.1.2 and D.2.2, because they do not provide compensatory actions for an inoperable RPS Power Range Neutron Flux channel and should not be included in STS (NUREG-1431) LCO 3.3.1.

IP2 has a very strong preference to maintain LCO 3.3.1, Condition D, as submitted so that the IP2 ITS is the same as the IP3 ITS which was approved for IP3 in Amendment 205.

This deviation from the STS (NUREG-1431) should be approved for the following reasons:

Reason 1:

STS (NUREG-1431) LCO 3.3.1, Required Actions D.1.2 and D.2.2, do not provide compensatory actions for an inoperable RPS Power Range Neutron Flux channel. Required Actions D.1.2 and D.2.2 do provide compensatory actions when one of the four Power Range Neutron Flux Monitors is not available to provide input into the calculation of Quadrant Power Tilt Ratio required by LCO 3.2.4. Required Actions D.1.2 and D.2.2 were incorrectly added to STS (NUREG-1431) LCO 3.3.1 to compensate for a structural error in STS (NUREG-1431) LCO 3.2.4. Specifically, LCO 3.2.4 is very confusing because Note 1 to SR 3.2.4.1 is part LCO Condition and part Required Action and SR 3.2.4.2 is a Required Action and not an SR. LCO 3.2.4 should include the following: Condition - "One Power Range Neutron Flux Monitor input to QPTR inoperable" and Required Actions - Reduce Power to <75% within 12 hours OR Verify QPTR using incore detectors once every 12 hours. Although awkward, Note 1 to SR 3.2.4.1 and SR 3.2.4.2 do create a requirement to reduce Power to <75% within 12 hours or verify QPTR using incore detectors once every 12 hours when one Power Range Neutron Flux Monitor input to QPTR inoperable.

Reason 2:

Including Required Actions D.1.2, D.2.1 and D.2.2, in LCO 3.3.1 creates a very confusing presentation of the requirements. The extent of this confusion is demonstrated in recently approved TSTF-418, Rev.1, which attempted to incorporate new allowances extending channel Allowable Out of Service Times to 72 hours. Because the presentation of Required Actions D.1.2, D.2.1 and D.2.2, is so confusing, Required Action D.1.2, Reduce Thermal Power to <75% RTP, was incorrectly assigned a

Completion Time of 72 hours. This creates a trap for the operators because Note 1 to SR 3.2.4.1 and SR 3.2.4.2 require that power be reduced to <75% or completion of the initial performance of SR 3.2.4.2 within 12 hours when one of the four Power Range Neutron Flux Monitors is not available to provide input into the calculation of Quadrant Power Tilt Ratio.

Although Required Actions D.1.2, D.2.1 and D.2.2 recognize that a Condition for LCO 3.3.1, Reactor Protection System, the STS (NUREG-1431) presentation does not clearly recognize that SR 3.2.4.2 (i.e., the SR that should be a Condition) may be applicable even if the RPS function is operable.

Reason 3:

Additional review indicates, Note 1 to SR 3.2.4.1 and SR 3.2.4.2 do, in fact, establish a requirement (i.e. a Condition and Required Action) that will ensure that power is reduced to <75% within 12 hours or completion of SR 3.2.4.2 within 12 hours when one of the four Power Range Neutron Flux Monitors is not available to provide input into the calculation of Quadrant Power Tilt Ratio.

Entergy (IP2) Action:

IP2 will maintain LCO 3.3.1, Condition D, as submitted so that the IP2 ITS is the same as the IP3 ITS which was approved for IP3 in Amendment 205.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 12

MB4739

NRC Request for Additional Information (RAI):

Item 12

CTS Table 3.5-2, DOC A.14, DOC A.15

ITS Table 3.3.1-1, F#10.a, #10.b, Action I (RCP Breaker Position)

Retain the NUREG Note for RCP Breaker Position Action. CLB.2 states the changes made to Note are approved by WCAP-14333. WCAP-14333 do not address Function 10.a changes to ITS Action I Note.

Also, DOC A.14 and DOC A.15 add RCP Breaker Position TS requirements thus an M-DOC justification is needed. Also, ITS Action J with NUREG-14333 changes applies to Function 10.b. In addition, IP2 needs to request staff a review in order to apply the provisions of WCAP-14333 to Function 10.b because Function 10.b is not in the current IP2 licensing basis as provided by Amendment 212.

Ensure an appropriate safety basis justification is submitted for each column entry of ITS Table 3.3.1-1 for Function 10.b.

Entergy (IP2) Response:

IP2 will revise ITS 3.3.1, Note to Required Action I.1, to retain the wording in STS (NUREG-1431).

This will ensure that the testing in bypass option is used for RCP Breaker position trip only to permit testing of other channels when one RCP Breaker position channel is inoperable and in trip.

ITS 3.3.1, DOC A.14 and DOC A.15, identify the addition of ITS 3.3.1, Functions 10.a and 10.b, Reactor Coolant Pump (RCP) Breaker Position Trips. These DOCs state that ITS 3.3.1, Functions 10.a and 10.b, are not explicitly stated in the CTS but are implicit in the requirement for CTS Table 3.5-2, Item 13, 6.9 kV Bus Underfrequency. CTS Table 3.5-2, Item 13, causes a reactor trip by tripping the associated reactor coolant pump breakers (RCPBs) with the reactor trip caused by the logic associated with RCPB position trip. CTS Table 3.5-2, Item 13, 6.9 kV Bus Underfrequency, could not be operable unless the RCPB position trip is operable. Therefore, the addition of ITS 3.3.1, Functions 10.a and 10.b, Reactor Coolant Pump (RCP) Breaker Position Trips, is an administrative change. IP2 will revise ITS 3.3.1, DOC A.14 and DOC A.15, to specify that the explicit statements of the requirements for Reactor Coolant Pump (RCP) Breaker Position Trips is a more restrictive change justified in DOC M.15.

As identified in TSTF-418, IP2 agrees that the Reactor Coolant Pump (RCP) Breaker Position Trips are not covered by WCAP-14333; therefore, the 72 hour Completion Time does not apply to the RCP breaker position. IP2 will revise ITS 3.3.1 to correct the problem as shown in TSTF-418 (i.e., Add a new Condition I with a 6 hour AOT to place the channel in trip or be below P-7 and renumber Conditions and Required Actions I through O accordingly).

Entergy (IP2) Action:

IP2 will revise ITS 3.3.1, Note to Required Action I.1, to retain the wording in STS (NUREG-1431).

IP2 will revise ITS 3.3.1, DOC A.14 and DOC A.15, to specify that the explicit statements of the requirements for the RCP Breaker Position Trip is a more restrictive change justified in DOC M.15.

IP2 will revise ITS 3.3.1 to correct the problem as shown in TSTF-418 (i.e., Add a new Condition I with a 6 hour AOT to place the channel in trip or be below P-7 and renumber Conditions and Required Actions I through O accordingly).

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 13

MB4739

NRC Request for Additional Information (RAI):

Item 13

CTS 3.5.3, page 3.5-1

ITS 3.3.1 A.1, DOC L.3

Clarify the intent of L.3 for describing changes to CTS 3.5.3.

Entergy (IP2) Response:

IP2 will revise the markup of CTS 3.5.3 to delete the reference to DOC L.3.

ITS LCO 3.3.1, DOC L.3, is shown in Part 4 of the Package as "Superceded by Amendment 212." The CTS markup was not changed when Amendment 212 was incorporated.

Entergy (IP2) Action:

IP2 will revise the markup of CTS 3.5.3 to delete the reference to DOC L.3.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 14

MB4739

NRC Request for Additional Information (RAI):

Item 16

DOC A.32. Explain which CTS allowances are being reformatted.

Entergy (IP2) Response:

ITS 3.3.1, DOC A.32, explains that the "Actions for ITS 3.3.1, Reactor Protection System Instrumentation, are preceded by a Note that specifies: 'Separate Condition entry is allowed for each function. This allowance provides explicit recognition that the ITS is designed to allow completely separate re-entry into any Condition for each train and/or channel addressed by the Condition. This includes separate tracking of Completion Times based on this re-entry.'"

The addition of this Note was identified as an administrative change with no impact on safety because the structure of the CTS requirements allow completely separate re-entry into any Condition for each train and/or channel addressed by the Condition. For example, CTS Table 3.5-2, Function 10, RCS Low Flow, and Function 11, Lo Lo Steam Generator Water Level, specifies requirements on 'channels per loop' basis which allows Actions (e.g., place an inoperable channel in trip) to be entered and Completion Times to be tracked on a per loop basis exactly as permitted by the ITS. Therefore, addition of this Note is an administrative change.

Entergy (IP2) Action:

IP2 will revise ITS 3.3.1, DOC A.32, to include the additional clarifications provided above.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 16

MB4739

NRC Request for Additional Information (RAI):

Item 19

CTS T3.5-2 Note # to No. 18 (Reactor Trip Logic, Columns 3 & 4, ITS Action K.1

CTS T3.5-2 Note # to No. 19 (Reactor Trip Breaker, Col. 5) ITS Action L, DOC A.27.c

The CTS Action K and L bypass times (8 hours and 24 hours) are in T3.5-2. Current licensing basis includes WCAP-10271 and WCAP-14333 bypass AOT of 4 hours and 12 hours. Revise ITS to adopt NUREG Rev. 2 bypass time allowances in Action K Note (4 hours), and the bypass time allowances in Action L Notes 1 (2 hours), 2 (2 hours) and 3 (4 hours). [It appears Amendments 154 and 212 made TS changes in error of the analysis used to approve the bypass time allowances. In this regard, provide the license amendment citations to show the basis for T3.5-2, Note # in CTS.]

Entergy (IP2) Response:

IP2 CTS Table 3.5-2, Note #, consists of two parts:

Part 1 of the Note reads:

"A reactor trip breaker and/or associated logic channel may be bypassed for maintenance or surveillance testing for up to eight hours provided the redundant reactor trip breaker and/or associated logic channel is operable." This portion of the Note was evaluated and approved in the SER for CTS Amendment 137, dated April 10, 1989. The SER states: "In addition, the licensee proposed increasing the time a reactor trip breaker or its associated logic channel could be bypassed for maintenance or surveillance testing from 2 hours specified in Generic Letter 85-09 to eight hours. The increased AOT is required to perform the required surveillance test since Indian Point Unit 2 uses relay protection logic rather than solid state protection logic as was envisioned when the requirements for Generic Letter 85-09 were developed. We agree that relay protection logic requires the additional amount of time to perform the required testing." IP2 is maintaining this allowance as Notes 1 and 2 to ITS 3.3.1, Required Action L.1.

Part 2 of the Note reads:

"A reactor trip breaker and associated logic channel may be bypassed for corrective maintenance for up to 24 hours if corrective maintenance is required on the logic channel, provided the redundant reactor trip breaker and/or associated logic channel is operable." This portion of the Note was evaluated and approved in the SER for CTS Amendment 212, dated November 30, 2000. The Section 2.3 of the SER states that WCAP-14333 justifies extending the allowable Out of Service Time for the logic cabinets from 6 hours to 24 hours and that reactor trip breakers test in bypass time can be equivalent to the logic cabinets provided both are tested at the same time. This is clarified in CTS Bases page 4.5-8, approved as part of CTS Amendment 212, which states: "Corrective (not preventive) maintenance is permitted on a logic channel provided that the redundant channel is operable. For the RPS, 24 hours of such maintenance is permitted for the trip breaker if the logic channel requires maintenance at the same time. IP2 is maintaining this allowance as a Note to ITS 3.3.1, Required Action K.1.

Entergy (IP2) Action:

None

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 17

MB4739

NRC Request for Additional Information (RAI):

Item 23 - BSI for staff review

DOC A.6

ITS T3.3.1-1, F.3(IRNM) and 4 (SRNM)

ITS proposes "NA" Allowable Values and the ITS proposed Channel Calibration testing for both SRNMs and IRNMs. Calibrations require trip setpoints which are related to an analytical limit through the setpoint methodology.

Entergy (IP2) Response:

CTS Bases page 2.3-5 states: The source and intermediate range reactor trips do not appear in the specification as these settings are not used in the transient and accident analysis (UFSAR Section 14). Both trips provide protection during reactor startup. The former is set at about 10+5 counts/sec and the latter at a current proportional to approximately 25% of rated full power.

IP2 will include allowable values for source range and intermediate range trips as allowable values in the ITS.

Entergy (IP2) Action:

IP2 will include allowable values for source range and intermediate range trips as allowable values in the ITS.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 18

MB4739

NRC Request for Additional Information (RAI):

Item 24

Note to ITS SR 3.3.1.3 and 3.3.1.6

CTS 3.11.B

CTS 3.11.B specifies a penalty for not successfully completing recalibration requirements for the incore axial offset detection system. ITS STS 3.3.1.3 and 3.3.1.6 require testing every 31 EFPD. ITS proposed to delete SR notes which permit a delay for meeting STS upon entry into Modes 1 and 2. ITS proposes to replace the notes with a note to limit applicability of these STS to 'greater than or equal to' 90% RTP. To properly implement CTS revise ITS to adopt the NUREG SR notes (add plant specific values to []) and modify the ITS Action for OTdT (Condition E) to include reducing power to < 90% RTP to requirements for placing inoperable channels in trip within 72 hours.

Entergy (IP2) Response:

CTS Table 4.1-1, Item 1 (including Remark 3 and Note *1), requires that the monthly calibration of the power range channels consist of a comparison of the upper and lower axial offset using the incore detectors as well as a comparison of the incore and excore detectors of the Nuclear instruments. ITS SR 3.3.1.3 maintains the requirement to compare results of the incore detector measurements to NIS AFD and ITS SR 3.3.1.6 maintains the requirements to compare the incore and excore detectors.

ITS SR 3.3.1.3, Note 2, and ITS 3.3.1.6, Note, were added to maintain an existing allowance in CTS 3.11.B that these SRs are required to be performed only when Thermal Power is > 90% RTP. This Note maintains the CTS recognition that the potential for exceeding Axial Flux Difference is very small when Thermal Power is < 90% RTP. Additionally, this is an explicit recognition that the SR cannot be performed until minimum plant conditions for performing the SR are established.

However, based on discussions with the NRC reviewer, IP2 will revise the ITS SR 3.3.1.3, Note 2, and ITS 3.3.1.6, Note, to adopt the more flexible allowances provided in the equivalent Notes in STS (NUREG-1431). This change will be justified in ITS 3.3.1, DOC L.10.

Following this change:

ITS SR 3.3.1.3, Compare results of incore detector measurements to NIS AFD, will be modified by a Note that this SR is "Not required to be performed until 24 hours after THERMAL POWER is greater than 15% RTP." The power level and time limit are consistent with ITS LCO 3.2.3, Axial Flux Difference; and

ITS SR 3.3.1.6, Calibrate excore channels to agree with incore detector measurements, will be modified by a Note that this SR is "Not required to be performed until 24 hours after THERMAL POWER is greater than 50% RTP." The power level and time limit are consistent with ITS LCO 3.2.4, Quadrant Power Tilt Ratio.

In addition to the change above, IP2 will revise the Frequency for ITS SR 3.3.1.6 from monthly to 92 EFPDs. This change will be justified in ITS 3.3.1, DOC L.09. The justification will be that 92 EFPDs is justified based on industry operating experience, the calibration interval for the neutron flux instruments including operating experience operating history data for instrument drift.

Entergy (IP2) Action:

IP2 will revise the ITS SR 3.3.1.3, Note 2, and ITS 3.3.1.6, Note, to adopt the more flexible allowances provided in the equivalent Notes in STS (NUREG-1431). This change will be justified in ITS 3.3.1, DOC L.10.

IP2 will revise the Frequency for ITS SR 3.3.1.6 from monthly to 92 EFPDs. This change will be justified in ITS 3.3.1, DOC L.09. The justification will be that 92 EFPDs is justified based on industry operating experience.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 19

MB4739

NRC Request for Additional Information (RAI):

Item 25

ITS SR 3.3.1.12 proposed change to NUREG note.

DOC M.7

DOC A.7.e, DOC A.8.e

Provide a design basis justification for not adopting the NUREG note to SR 3.3.1.12 for both OPdT and OtdT.

Entergy (IP2) Response:

STS (NUREG-1431) SR 3.3.1.12 requires the performance of a channel calibration for the Over temperature and Overpower delta T functions and is modified by a Note stating that this test shall include verification of the RCS resistance temperature detector (RTD) bypass loop flow rate. This Note was not included in the IP2 ITS because IP2 does not use RCS resistance temperature detector (RTD) bypass loops.

IP2 will add ITS 3.3.1, JFD DB.1, to include the discussion above.

IP2 ITS added a new note to SR 3.3.1.12 stating that this calibration must include verification that the electronic dynamic compensation time constants are set at the required values as part of the calibration procedure for the Overtemperature delta T function. This was done because IP2 CTS does not explicitly identify dynamic compensation time constants or explicitly require verification that they are properly set. DOC M.07 and DOC A.9.e identified addition of an explicit requirement to include this verification as part of the calibration as a more restrictive change.

IP2 will move the information about electronic dynamic compensation time constants to the Bases for SR 3.3.1.12. This addition will be explained in DOC A.9.e and DOC M.07 will be deleted.

Entergy (IP2) Action:

IP2 will add ITS 3.3.1, JFD DB.1, to include the discussion above.

IP2 will move the information about electronic dynamic compensation time constants to the Bases for SR 3.3.1.12. This addition will be explained in DOC A.9.e and DOC M.07 will be deleted.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

3.3.1 - 20

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

Item 27

DOC M.6 (SRNM/IRNM) surveillance requirements 3.3.1.7 and 3.3.1.8

Add a DOC discussion re: meeting IP2 analysis basis. Account for all CTS changes such as the 4 hour Note AOT, and the 92 day STI.

Entergy (IP2) Response:

CTS Table 4.1-1, Item 3, does not include an explicit requirement to perform a COT of the IRM Flux trip during a reactor shutdown. This is an implicit assumption that the reactor shutdown will always be completed and the plant will not spend a significant amount of time in the Applicable Mode for this function. ITS SR 3.3.1.8 establishes a new requirement to perform a COT for ITS 3.3.1, Function 4, within 4 hours after reducing power below the P-6 (IRM Flux interlock) setpoint. This ensures that the COT will verify function Operability if the plant expects to stay critical, while allowing this SR to be skipped if the reactor shutdown will be completed promptly (See ITS 3.3.1, DOC M.06 and M.15).

CTS Table 4.1-1, Item 2, does not include an explicit requirement to perform a COT of the IRM Flux (trip) during a reactor shutdown. This is an implicit assumption that the reactor shutdown will always be completed and the plant will not spend a significant amount of time in the Applicable Mode for this function. ITS SR 3.3.1.8 includes a new requirement to perform a COT for ITS 3.3.1, Function 3, within 12 hours after reducing power below the P-10 setpoint (See ITS 3.3.1, DOC M.06 and M.15). This ensures that the COT will verify function Operability if the plant expects to stay critical, while allowing this SR to be skipped if the reactor shutdown will be completed promptly.

IP2 agrees that WCAP-10271 requires that both channels of SRM must be Operable for the Channel Operation Test (COT) 92 day surveillance Frequency to apply to ITS 3.3.1, Function 4, Source Range Neutron (SRM) Flux, and both channels of IRM must be Operable for the COT 92 day surveillance Frequency to apply to ITS 3.3.1, Function 3, Intermediate Range Neutron Flux. If only one channel of SRM or IRM is Operable, then the Frequency in CTS Table 4.1-1, Item 2 (Frequency S/U *2), which requires an IRM and SRM test (i.e., Channel Operational Test) be performed "prior to each startup if not performed in the previous week," applies to the instrument with only one of the two channels Operable.

To ensure that this requirement is met, IP2 will make the following changes:

ITS SR 3.3.1.7 Frequency will be changed from "92 days" to "92 days AND 7 days for source range instrumentation if only 1 channel is OPERABLE AND 7 days for intermediate range instrumentation if only 1 channel is OPERABLE." IP2 will revise ITS 3.3.1, DOC L.5 and the ITS Bases for SR 3.3.1.7 to justify and explain this change. This will also ensure that SR 3.3.1.7 is performed every 7 days if only one SRM is required to be Operable in Mode 3, 4 and 5 (i.e., when the Rod Control System is capable of rod withdrawal or if one or more rods are not fully inserted).

ITS SR 3.3.1.8 Frequency will be changed as follows:

The SR 3.3.1.8 Frequency Note will be changed from "Only required when not performed within previous 92 days" to "Only required when not performed within previous 92 days or previous 7 days for source range instrumentation if only 1 channel is OPERABLE and previous 7 days for intermediate range instrumentation if only 1 channel is OPERABLE."

The SR 3.3.1.8 Frequency will be changed from "Every 92 days thereafter" to "Every 92 days thereafter AND Every 7 days thereafter for source range instrumentation if only 1 channel is OPERABLE AND Every 7 days thereafter for intermediate range instrumentation if only 1 channel is OPERABLE." IP2 will revise ITS 3.3.1, DOC L.5 and the ITS Bases for SR 3.3.1.8 to justify and explain these changes.

Entergy (IP2) Action:

IP2 will revise DOC M.06 and add DOC M.15 to provide additional justification for SRM and IRM testing which is already explained in DOCs A.06.e and A.07.e.

ITS SR 3.3.1.7 Frequency will be changed from "92 days" to "92 days AND 7 days for source range instrumentation if only 1 channel is OPERABLE AND 7 days for intermediate range instrumentation if only 1 channel is OPERABLE." IP2 will revise ITS 3.3.1, DOC L.5 and the ITS Bases for SR 3.3.1.7 to justify and explain this change.

ITS SR 3.3.1.8 Frequency will be changed as follows:

The SR 3.3.1.8 Frequency Note will be changed from "Only required when not performed within the previous 92 days" to "Only required when not performed within the previous 92 days or previous 7 days for source range instrumentation if only 1 channel is OPERABLE and previous 7 days for intermediate range instrumentation if only 1 channel is OPERABLE."

The SR 3.3.1.8 Frequency will be changed from "Every 92 days thereafter" to "Every 92 days thereafter AND Every 7 days thereafter for source range instrumentation if only 1 channel is OPERABLE AND Every 7 days thereafter for intermediate range instrumentation if only 1 channel is OPERABLE." IP2 will revise ITS 3.3.1, DOC L.5 and the ITS Bases for SR 3.3.1.8 to justify and explain these changes.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 21

MB4739

NRC Request for Additional Information (RAI):

Item 28

CTS 4.1.c Table 4.1-1 No. 3

CTS states tests will be performed promptly upon achieving minimum conditions (i.e., plant). Add DOC discussion justifying replacing CTS time allowance "promptly" with proposed ITS SR 3.3.1.7 and SR 3.3.1.8 testing time delays given in the NUREG. Cite plant procedures and operator guidance as evidence where available.

Entergy (IP2) Response:

This issue is addressed in the response to RAI 3.3.1-20. There are no plant procedures that explicitly address the requirement to verify IRM and SRM trip function Operability if the plant expects to stay critical in the source or intermediate range rather than complete a reactor shutdown.

Entergy (IP2) Action:

None

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 22

MB4739

NRC Request for Additional Information (RAI):

Item 32

ITS T3.3.1-1, F.18 (RTBs) , 19 (RTP under voltage and shunt trip mechanisms) & 20 (RTP Automatic Trip Logic)

CTS T3.5-2, No.18 and No. 19 (Column 5)

Revise DOC M.11. Give a safety basis justification for the implied ITS functions Applicability and the addition of STS, and Actions specified in Table 3.3.1-1.

Entergy (IP2) Response:

ITS 3.3.1, DOC M.11, adds new requirements that reactor trip breakers and (RPS) automatic trip logic must be Operable in Mode 3, 4 and 5 if the Rod Control System is capable of rod withdrawal or if one or more rods are not fully inserted.

IP2 will revise ITS 3.3.1, DOC M.11, to specify that in conjunction with the change to require Operability of the reactor trip breakers and (RPS) automatic trip logic when in Mode 3, 4 and 5 if the Rod Control System is capable of rod withdrawal or if one or more rods are not fully inserted; ITS 3.3.1, will add Condition C and Required Actions C.1 and C.2. Condition C will identify the condition of one train of reactor trip breakers or (RPS) automatic trip logic inoperable when required in Mode 3, 4 and 5. The Required Actions with one channel or train inoperable, the inoperable channel or train must be restored to Operable status within 48 hours. If the affected Functions cannot be restored to Operable status within the allowed 48 hour Completion Time, the unit must be placed in a Mode in which the requirement does not apply. To achieve this status, action must be initiated within the same 48 hours to ensure that all rods are fully inserted, and the Rod Control System must be placed in a condition incapable of rod withdrawal within the next hour. The additional hour provides sufficient time to accomplish the action in an orderly manner. These Actions are acceptable because with rods fully inserted and the Rod Control System incapable of rod withdrawal, these Functions are no longer required. The Completion Time is reasonable considering that in this Condition, the remaining OPERABLE train is adequate to perform the safety function, and given the low probability of an event occurring during this interval.

Entergy (IP2) Action:

IP2 will revise ITS 3.3.1, DOC M.11, as described above.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 23

MB4739

NRC Request for Additional Information (RAI):

Item 33

ITS T3.3.1-1 F. 17 a-e (Interlocks)

Revise DOC M.10. Give a safety basis justification for the implied ITS functions Applicability and the addition of SRs, and Actions specified in Table 3.3.1-1.

Entergy (IP2) Response:

IP2 ITS 3.3.1, DOCs A.22 through 26 and DOC M.10, provide a detailed description of how CTS requires Operability of various RPS protective functions when specified plant conditions are reached but does not explicitly require Operability of the interlock functions that automatically enable the RPS trip functions or allow manual disabling when the function could interfere with plant operations. For example, CTS 2.3.2.A specifies that reactor trips on low pressurizer pressure, high pressurizer level, low reactor coolant flow for two or more loops, and turbine trip must be unblocked when specified conditions are met. CTS 2.3.2.B specifies that single loop loss of flow reactor trips may be bypassed when the power range nuclear instrumentation indicates < 60% RTP. Although each of these requirements is enforced by an automatic interlock function, CTS does not explicitly require Operability of the interlock function. ITS 3.3.1, Function 17, Reactor Protection System Interlocks, is added to require Operability of the following: 17.a, Intermediate Range Neutron Flux (P-6) Interlock; 17.b, Low Power Reactor Trips Block (P-7) Interlock; 17.c, Power Range Neutron Flux (P-8) Interlock; 17.d, Power Range Neutron Flux (P-10) Interlock; and 17.e, Turbine First Stage Pressure (P-7 Input) interlock. If any of these interlocks is not Operable, ITS 3.3.1, Required Actions M.1 and N.1, require that the interlock be established consistent with plant conditions.

As described in ITS 3.3.1, DOC M.10, there is no safety basis justification for the Applicability the interlocks other than the requirement that the interlock should be Operable. Additionally, if any of these interlocks are not Operable, ITS 3.3.1, Required Actions M.1 and N.1, require that the interlock be established consistent with plant conditions. This is no different from the CTS requirement that the RPS function is enabled with no explicit requirement that interlock function.

Entergy (IP2) Action:

None

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 24

MB4739

NRC Request for Additional Information (RAI):

Item 34

DOC M.3

CTS Table 3.5-2, No. 1 (Manual)

ITS T3.3.1-1, F.1 (Manual)

CTS do not specify a shutdown Applicability for manual reactor trip. Revise DOC M.3 to discuss the safety basis for the proposed CTS change to Applicability.

Entergy (IP2) Response:

ITS 3.3.1, DOC M.03, explains that ITS expands the Applicability for Manual Reactor Trip Function to include Mode 3, 4 and 5 if the Rod Control System is capable of rod withdrawal or one or more rods are not fully inserted. The DOC M.03 justification for change states:

"This change is needed because having the Manual Reactor Trip Function is prudent whenever control rods are not fully inserted. Additionally, inadvertent control rod withdrawal is possible unless the Control Rod Drive (CRD) System is made not capable of withdrawing rods when in Mode 3, 4 and 5. In Mode 6, the CRDMs are normally disconnected from the control rods or control rods are not otherwise permitted to be withdrawn. Therefore, the manual initiation Function is not required in Mode 6. This change is acceptable because it does not introduce any operation which is un-analyzed while requiring manual reactor trip capability whenever the Rod Control System is capable of rod withdrawal or if one or more rods are not fully inserted. This change has no adverse impact on safety."

The DOC M.03 safety basis for the proposed change to the CTS Applicability is consistent with the Safety Analysis provided in STS (NUREG-1431) which states:

"In MODE 3, 4, or 5, the manual initiation Function must also be OPERABLE if one or more shutdown rods or control rods are withdrawn or the Rod Control System is capable of withdrawing the shutdown rods or the control rods. In this condition, inadvertent control rod withdrawal is possible. In MODE 3, 4, or 5, manual initiation of a reactor trip does not have to be OPERABLE if the Rod Control System is not capable of withdrawing the shutdown rods or control rods and if all rods are fully inserted. If the rods cannot be withdrawn from the core, or all of the rods are inserted, there is no need to be able to trip the reactor. In MODE 6, neither the shutdown rods nor the control rods are permitted to be withdrawn and the CRDMs are disconnected from the control rods and shutdown rods. Therefore, the manual initiation Function is not required. "

Entergy (IP2) Action:

None

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 25

MB4739

NRC Request for Additional Information (RAI):

Item 35

DOC M.2

DOC A.3.c

Provide justification for adding Req. Act. B.2 and Req. Act. C.2.1/C.2.2

Entergy (IP2) Response:

ITS 3.3.1, DOC A.03.c, explains that if CTS requirements for minimum number of channels or minimum level of redundancy are not met (i.e., complete loss of manual reactor trip function because CTS requires only one channel), CTS Table 3.5-2, Function 1, Column 5, requires that the plant "maintain hot shutdown" but no completion time is specified. Therefore, requirements and completion times specified in CTS 3.0.1 would govern and CTS Table 3.5-2, Function 1, Column 5, would be interpreted as requiring that the plant be in hot shutdown (i.e., Mode 3) within 7 hours. Under the same conditions (i.e., complete loss of reactor manual trip function), ITS LCO 3.3.1 defaults to ITS LCO 3.0.3 which requires that the plant be placed in Mode 3 within 7 hours. Therefore, there is no change to the existing requirement. As described and justified in DOC M.02, ITS adds a requirement for 2 operable channels of reactor manual trip function and requirement for restoration to Operable within 48 hours if one of the two reactor manual trip functions becomes inoperable.

IP2 will revise DOC M.02 to explain that if redundancy for the reactor manual trip function is not restored within 48 hours, then Required Action B.2 will require that the plant be placed in Mode 3 within the following 6 hours. If the Rod Control System is capable of rod withdrawal or if one or more rods are not fully inserted when the plant is placed in Mode 3, Required Actions C.2.1 and C.2.2 will require that all rods are inserted and the Rod Control System is made incapable of rod withdrawal within the following 48 hours.

Entergy (IP2) Action:

IP2 will revise DOC M.02 to explain that if redundancy for the reactor manual trip function is not restored within 48 hours, then Required Action B.2 will require that the plant be placed in Mode 3 within the following 6 hours. If the Rod Control System is capable of rod withdrawal or if one or more rods are not fully inserted when the plant is placed in Mode 3, Required Actions C.2.1 and C.2.2 will require that all rods are inserted and the Rod Control System is made incapable of rod withdrawal within the following 48 hours.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 26

MB4739

NRC Request for Additional Information (RAI):

Item 36

LA.3

DOC A.3.e and DOC A.4.e moves [manual trip] SR remarks to the Bases. Revise DOC LA.3 to justify the moved CTS "remarks" are descriptive information and the ITS TADOT contain all CTS test requirements. Identify plant procedures that implement T4.1-1, No. 42 R# and "remarks". DOC LA.3 does not evaluate all CTS T4.1-1 "remarks" for No. 42 (see T4.1-1 yellow highlights).

Entergy (IP2) Response:

Remarks for CTS Test requirements in CTS Table 4.1-1, Item 42, Manual Reactor Trip, are as follows: "Includes: 1) Independent verification of reactor trip and bypass breakers undervoltage trip circuit operability up to and including matrix contacts of RT-11/RT-12 from both manual trip initiating devices, 2) independent verification of reactor trip and bypass breaker shunt trip circuit operability through trip actuating devices from both manual trip initiating devices." The yellow highlighted section was "up to and including matrix contacts of RT-11/RT-12 from both manual trip initiating devices." This information was maintained in the Bases for ITS SR 3.3.1.14 (i.e., Perform TADOT of the reactor manual trip function) as Insert 3.3.1-52-01. This is descriptive information because it describes application of the ITS definition of a TADOT (i.e., TADOT of the reactor manual trip function shall consist of operating the trip actuating device and verifying the OPERABILITY of all devices in the channel required for trip actuating device OPERABILITY.) Anything downstream of "matrix contacts of RT-11/RT-12" is tested as part of the reactor trip breaker and bypass breaker test. Associated test procedure is PT-R51, Manual Trip Breakers.

Entergy (IP2) Action:

None

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 27

MB4739

NRC Request for Additional Information (RAI):

Item 37

DOC M.1

ITS uses WCAP-14333 test times and Completion Times. WCAP-14333 was approved for IP2 in Amendment 212. Explain the need for M.1 discussion of change.

Entergy (IP2) Response:

CTS 3.5.4 allows an inoperable channel that has been placed in trip to be bypassed "for a short period of time" for testing of the remaining Operable channels. Although CTS 3.5.4 does not provide an explicit time limit for testing in bypass, the CTS Bases explain that, "For analog channels, this test bypass allowance is limited to 12 hours consistent with" WCAP-14333, "Probabilistic Risk Analysis of the RPS and ESFAS Test Times and Completion Times."

ITS 3.3.1, DOC M.1, was written because the ITS establishes "explicit" limits for the amount of time that a tripped channel may be bypassed consistent with the analysis provided in WCAP-14333-P-A, and WCAP-10271, Supplement 2, instead of relegating the explicit limits to the CTS Bases.

IP2 will revise ITS 3.3.1, DOC M.1, to clarify that the change is the addition of "explicit" limits for the amount of time that a tripped channel may be bypassed instead of relegating the explicit limits to the CTS Bases.

Entergy (IP2) Action:

IP2 will revise ITS 3.3.1, DOC M.1, to clarify that the change is the addition of "explicit" limits for the amount of time that a tripped channel may be bypassed instead of relegating the explicit limits to the CTS Bases.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 28

MB4739

NRC Request for Additional Information (RAI):

Item 39

DOC A.4.e

Provide plant procedures, or a design basis or analysis for the 24 hour time allowance. The NUREG uses 12 hours.

Entergy (IP2) Response:

IP2 will revise ITS 3.3.1, DOC A.04.e, and the Note to ITS SR 3.3.1.2 to require that ITS SR 3.3.1.2, a heat balance calibration every 24 hours, may be deferred until 12 hours after exceeding 15% RTP which is an explicit recognition that the SR cannot be performed until minimum plant conditions for performing the SR are established.

Entergy (IP2) Action:

IP2 will revise ITS 3.3.1, DOC A.04.e, and the Note to ITS SR 3.3.1.2 as described above.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 29

MB4739

NRC Request for Additional Information (RAI):

Item 48

DOC L.4

This DOC does not discuss Req. Action F.1 and F.2 as shown in CTS T3.5-2 markup (Column 5) for the IRNM.

Entergy (IP2) Response:

IP2 ITS 3.3.1, DOC A.06.c, provides the following discussion of ITS 3.3.1, Required Actions F.1 and F.2:

"CTS Table 3.5-2, Function 3, requires that the plant is placed in hot shutdown (i.e., Mode 3) if the one required Intermediate Range Neutron Flux (trip) becomes inoperable. No completion time is specified.

Under the same conditions (loss of all intermediate range trips), ITS 3.3.1, Required Action F.1, requires immediate suspension of positive reactivity additions (See DOC M.05) and ITS 3.3.1, Required Action F.2, requires reduction of power to less than the P-6 setpoint (i.e., where the source range trip is required to be Operable) within 2 hours (See DOC L.4). ITS 3.3.1, Note 1 to Required Action F.1, provides an exception to the new requirement for immediate suspension of positive reactivity additions when the one required Intermediate Range Neutron Flux (trip) becomes inoperable. This exception permits normal plant control operations that add limited positive reactivity (e.g., temperature or boron fluctuations associated with RCS inventory management or temperature control) are not precluded provided they are accounted for in the calculated SDM."

"Requiring immediate suspension of positive reactivity additions when the one required Intermediate Range Neutron Flux (trip) becomes inoperable is a more restrictive change that is justified in DOC M.05."

"Requiring that power be reduced to less than the P-6 setpoint to less than the P-6 setpoint (instead of to Mode 3 as required by the CTS) is a less restrictive change justified in DOC L.4."

IP2 ITS 3.3.1, DOC L.4, provides the following justification for this change:

"This change is needed because it eliminates the requirements for the IRM trip function to be Operable when neutron flux is below the IRM instrument indication range.

This is acceptable because the Power Range Neutron Flux - High trip provides core protection for a rod withdrawal accident at all power levels. Additionally, below the P-6 setpoint in Mode 2, the Source Range Neutron Flux Trip provides a redundant and diverse function providing core protection for reactivity accidents. In MODE 3, 4, or 5, the Intermediate Range Neutron Flux trip does not have to be Operable because the control rods must be fully inserted and only the shutdown rods may be withdrawn. Therefore, this change has no impact on safety."

Entergy (IP2) Action:

None.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 30

MB4739

NRC Request for Additional Information (RAI):

Item 49

DOC A.7.b, DOC A.7.c

Provide safety basis justification for SRNM Applicability in Modes 3(a), 4(a), and 5(a).

Entergy (IP2) Response:

IP2 will revise ITS 3.3.1, DOC A.07.a, to include the following:

CTS 3.5 does not specify any requirements for Operability of the Source Range Trip function if the Rod Control System is capable of rod withdrawal or one or more rods are not fully inserted when in Modes 3, 4 and 5.

ITS 3.3.1, Function 4, adds a new requirement that 1 channel of the Source Range Trip function is Operable if the Rod Control System is capable of rod withdrawal or one or more rods are not fully inserted when in Modes 3, 4 and 5. If this requirements is not met, ITS 3.3.1, Function 4, will require entry into Condition G with an associated Required Action that reactor trip breakers are opened immediately. This change is addressed in DOC M.17.

IP2 will add DOC M.17 to justify this new requirement as follows: "This change is needed because the Source Range trip Function supplements administrative controls that provide protection for control rod withdrawal from subcritical, boron dilution and control rod ejection events. Therefore, the source range trip is required to provide RPS automatic protection function in Modes 3, 4, and 5 when rods are capable of withdrawal or one or more rods are not fully inserted."

Entergy (IP2) Action:

IP2 will revise ITS 3.3.1, DOC A.07.a, and add DOC M.17 as described above.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 31

MB4739

NRC Request for Additional Information (RAI):

Item 50

CTS T4.1-1, No. 2 (IRNM)

DOC L.05

Show the basis for the CTS SR changes in T4.1-1 for No. 2. SR test S/U(2)*2 is translated into ITS SR 3.3.1.8 requirements including surveillance and frequency Notes. For CTS T4.1-1, No. 3 (SRNM), explain the translation of SR test S/U(2)*2 into ITS SR 3.3.1.8 (below P-6 in Mode 2) and into SR 3.3.1.7 (Modes 3(a), 4(a), 5(a)).

Entergy (IP2) Response:

The response to RAI 3.3.1-20 provides a comprehensive discussion and response to this item.

The following part of the response to RAI 3.3.1-20 will address this issue:

ITS SR 3.3.1.7 Frequency will be changed from "92 days" to "92 days AND 7 days for source range instrumentation if only 1 channel is OPERABLE AND 7 days for intermediate range instrumentation if only 1 channel is OPERABLE." IP2 will revise ITS 3.3.1, DOC L.5 and the ITS Bases for SR 3.3.1.7 to justify and explain this change. This will also ensure that SR 3.3.1.7 is performed every 7 days if only one SRM is required to be Operable in Mode 3, 4 and 5 (i.e., when the Rod Control System is capable of rod withdrawal or if one or more rods are not fully inserted).

Entergy (IP2) Action:

The response to RAI 3.3.1-20 provides a comprehensive discussion and response to this item.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 32

MB4739

NRC Request for Additional Information (RAI):

Item 53

The Note to SR 3.3.1.9 (TADOT) is required for each CTS function with this SR. Provide a safety basis justification for the CTS changes.

Entergy (IP2) Response:

ITS SR 3.3.1.9 is a requirement to perform a TADOT for ITS LCO 3.3.1, Function 11, Undervoltage RCP (6.9 kV bus), and Function 12, Underfrequency RCP (6.9 kV bus). The definition of a Trip Actuating Device Operational Test includes the requirement that a TADOT shall include adjustment, as necessary, of the trip actuating device so that it actuates at the required setpoint within the necessary accuracy.

ITS SR 3.3.1.9, the requirement to perform a TADOT for Undervoltage RCP (6.9 kV bus) and Underfrequency RCP (6.9 kV bus) is modified by the following Note which provides an exemption from the full definition of a TADOT: "Verification of setpoint is not required."

ITS SR 3.3.1.9 for ITS LCO 3.3.1, Function 11, Undervoltage RCP (6.9 kV bus), is addressed in DOC A.16.e which states that the equivalent CTS requirement is CTS Table 4.1-1, Item 8.a, which requires a channel test every quarter. DOC A.16.e states that "ITS SR 3.3.1.9 is modified by a Note that provides an exception to the definition of a TADOT that is needed because setpoint verification for undervoltage relays requires elaborate bench calibration and is accomplished during the channel calibration." CTS Table 4.1-1, Item 8.a, does not need a Note equivalent to the Note needed for ITS SR 3.3.1.9 because CTS Table 4.1-1 uses the term "Test" which is not defined.

ITS SR 3.3.1.9 for ITS LCO 3.3.1, Function 12, Underfrequency RCP (6.9 kV bus), is addressed in DOC A.17.e which states that the equivalent CTS requirement is CTS Table 4.1-1, Item 8.b, which requires a channel test every quarter. DOC 17.e states that "ITS SR 3.3.1.9 is modified by a Note that provides an exception to the definition of a TADOT that is needed because setpoint verification for undervoltage relays requires elaborate bench calibration and is accomplished during the channel calibration."

CTS Table 4.1-1, Item 8.b, is modified by a Note that states that the quarterly test is "Underfrequency relay actuation only." This Note is equivalent to the ITS Note that "Verification of setpoint is not required." IP2 will revise DOC A.17.e to specify that CTS Table 4.1-1, Item 8.b, note is maintained in ITS as a Note to ITS SR 3.3.1.9.

Entergy (IP2) Action:

IP2 will revise DOC A.17.e to specify that CTS Table 4.1-1, Item 8.b, note is maintained in ITS as a Note to ITS SR 3.3.1.9.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 33

MB4739

NRC Request for Additional Information (RAI):

Item 56

Provide a safety basis justification for the surveillance requirements added to ITS F.14 (SG Level Low and Coincident with Mismatch) and for ITS F.16 (SI input from ESFAS).

Entergy (IP2) Response:

IP2 will revise ITS LCO 3.3.1, DOC A.19.e, to include the following justification for the proposed surveillance intervals:

The logic for this function is consistent with logics evaluated in WCAP-10271, "Evaluation of Surveillance Frequencies and Out-of-Service Times for the Reactor Protection Instrumentation System" including Supplement 1, which provides the justification for the 12 hour Frequency for Channel Checks and the 92 day Frequency for the Channel Operation Test (COT). The 24 month Frequency for the Channel Calibration is used as an input for the calculation of the Allowable Value.

IP2 will revise ITS LCO 3.3.1, DOC M.08, to include the following justification for the proposed allowable out of service times and surveillance intervals:

The allowable out of service time for an inoperable channel that does not result in a loss of the safety function is justified in WCAP-14333-P-A, Rev. 1, Probabilistic Risk Analysis of the RPS and ESFAS Test Times and Completion Times. The logic for this function is consistent with logics evaluated in WCAP-10271, "Evaluation of Surveillance Frequencies and Out-of-Service Times for the Reactor Protection Instrumentation System" including Supplement 1, which provides the justification for the 12 hour Frequency for Channel Checks and the 92 day Frequency for the Channel Operation Test (COT). The 24 month Frequency for the Channel Calibration is used as an input for the calculation of the Allowable Value.

Entergy (IP2) Action:

IP2 will revise ITS LCO 3.3.1, DOC 19.e, and DOC M.08, as described above.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 34

MB4739

NRC Request for Additional Information (RAI):

Item 64

The list in DOC 26.b does not justify requiring 2 channels of ITS T3.3.1-1, F.17.e. Revise DOC A.26.b to provide a design basis for the proposed ITS required channels.

Entergy (IP2) Response:

IP2 will revise the description of change section of ITS LCO 3.3.1, DOC A.26.b, to read as follows: ITS 3.3.1, Function 17.e, Turbine First Stage Pressure (P-7 Input) Interlock, requires 2 Operable channels of the Turbine First Stage Pressure function. Two channels of the Turbine First Stage Pressure (P-7 Input) Interlock are needed so that there is an independent interlock channel for each train of RPS Automatic Trip Logic. Two trains of RPS Automatic Trip Logic, each performing the same functions, are needed so that if one train fails or is taken out of service for maintenance or test purposes, the second train will provide a reactor trip, if needed. Redundancy is needed because, on increasing reactor power, the Turbine First Stage Pressure (P-7 Input) Interlock automatically enables reactor trips on the following Functions: Pressurizer Pressure - Low, Pressurizer Water Level - High, Reactor Coolant Flow - Low (low flow in two or more RCS loops), RCPs Breaker Open (Two Loops), RCP Undervoltage, and RCP Underfrequency.

Entergy (IP2) Action:

IP2 will revise the description of change section of ITS LCO 3.3.1, DOC A.26.b, as described above.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 35

MB4739

NRC Request for Additional Information (RAI):

Item 65

DOC A.27.c

(a) Provide a justification for a 1 hour Completion Time to restore inoperable RTBs. This is not a CTS requirement.

(b) DOC A.27.c does not justify all changes included in the Description of Change. Revise A.27.

(c) Notes to Condition L do not match up with CTS T3.5-2, No. 19 # Notes (also see comment 19), therefore not all proposed changes are Administrative.

Entergy (IP2) Response:

Response to Part (a):

(This response duplicates the response to RAI 3.3.1-3.)

DOC A.27.c addresses the fact that no completion time is specified in CTS to restore an inoperable reactor trip breaker. Under the same conditions, ITS LCO 3.3.1, Required Action L.1, allows 1 hour to restore an inoperable RTB when in Modes 1 or 2; otherwise, the plant must be placed in Mode 3 within the following 6 hours. IP2 believes this is an administrative change with no impact on safety because one hour to complete this task is a reasonable interpretation of the existing requirement.

IP2 will revise ITS 3.3.1, DOC 27.c to provide the additional clarification that this is an administrative change because "if the action is not taken, then CTS 3.0.1 (ITS 3.0.3) would also require that the plant be in Mode 3 within a total of 7 hours."

Response to Part (b):

IP2 reviewed ITS 3.3.1, DOC A.27.c, and believes that the responses to Part (a) and Part (c) of this RAI address any differences between CTS and ITS that were not addressed.

Response to Part (c):

Responses to RAI 3.3.1-16 and RAI 3.3.1-36 provide a detailed explanation of why CTS Table 3.5-2, Function 19, Column 5, statements need to be interpreted in conjunction with IP2 CTS Table 3.5-2, Note #, which appears on the next CTS page. IP2 is maintaining the allowance in CTS Table 3.5-2, Note #, as Notes 1 and 2 to ITS 3.3.1, Required Action L.1. IP2 will revise ITS 3.3.1, DOC 27.e to provide the additional clarification given in the responses to Responses to RAI 3.3.1-16 and RAI 3.3.1-36.

Entergy (IP2) Action:

IP2 will revise ITS 3.3.1, DOC 27.c to provide the additional clarification that this is an administrative change because "if the action is not taken, then CTS 3.0.1 (ITS 3.0.3) would also require that the plant be in Mode 3 within a total of 7 hours."

IP2 will revise ITS 3.3.1, DOC 27.e to provide the additional clarification given in the responses to Responses to RAI 3.3.1-16 and RAI 3.3.1-36.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 36

MB4739

NRC Request for Additional Information (RAI):

Item 69

Deletions in T3.5-2, No. 19 (RTBs) Column 5 are not evaluated. Provide a DOC.

Entergy (IP2) Response:

CTS Table 3.5-2, Function 19, Column 5, includes the following statement: "The breaker shall not be bypassed except for the time required for performing maintenance and/or testing to restore it to operability." The markup of CTS shows this statement deleted with a reference to DOC A.28. The CTS Table 3.5-2, Function 19, Column 5, statement needs to be interpreted in conjunction IP2 CTS Table 3.5-2, Note #, which appears on the next CTS page. CTS Table 3.5-2, Note #, consists of two parts.

Part 1 of the Note reads: "A reactor trip breaker and/or associated logic channel may be bypassed for maintenance or surveillance testing for up to eight hours provided the redundant reactor trip breaker and/or associated logic channel is operable."

Part 2 of this Note reads: A reactor trip breaker and associated logic channel may be bypassed for corrective maintenance for up to 24 hours if corrective maintenance is required on the logic channel, provided the redundant reactor trip breaker and/or associated logic channel is operable. CTS Table 3.5-2, Note #, provides specific details about how to interpret the sentence deleted from CTS Table 3.5-2, Function 19, Column 5. IP2 is maintaining the allowance in Part 1 of the CTS Note as Notes 1 and 2 to ITS 3.3.1, Required Action L.1. IP2 is maintaining the allowance in Part 2 of the CTS Note as Note to ITS 3.3.1, Required Action K.1. (See response to RAI 3.3.1-16 for justification for maintaining the allowances CTS Table 3.5-2, Note #, in the ITS.)

IP2 will revise ITS 3.3.1, DOC A.38.e, the explanation of Surveillance requirements for ITS 3.3.1, Function 19, Reactor Trip Breaker Undervoltage and Shunt Trip Mechanisms, to explain what is described above.

Entergy (IP2) Action:

IP2 will revise ITS 3.3.1, DOC A.38.e, the explanation of Surveillance requirements for ITS 3.3.1, Function 19, Reactor Trip Breaker Undervoltage and Shunt Trip Mechanisms, to explain what is described above.

3.3.1 : Reactor Protection System (RPS) Instrumentation

NRC RAI Number

TAC Number:

3.3.1 - 37

MB4739

NRC Request for Additional Information (RAI):

Item 71

DOC A.29.e

In DOC A.29.e a TADOT is incorrectly referenced as the test required by ITS SR 3.3.1.5 (T3.3.1-1, F.20).

Entergy (IP2) Response:

IP2 will revise ITS LCO 3.3.1, DOC A.29.e, from "ITS SR 3.3.1.5 maintains the same requirement with a Trip Actuating Device Operational Test (TADOT) at a Frequency of 31 days on a Staggered Test Basis" to "ITS SR 3.3.1.5 maintains the same requirement for an Actuation Logic Test at a Frequency of 31 days on a Staggered Test Basis."

Entergy (IP2) Action:

IP2 will revise ITS LCO 3.3.1, DOC A.29.e, from "ITS SR 3.3.1.5 maintains the same requirement with a Trip Actuating Device Operational Test (TADOT) at a Frequency of 31 days on a Staggered Test Basis" to "ITS SR 3.3.1.5 maintains the same requirement for an Actuation Logic Test at a Frequency of 31 days on a Staggered Test Basis."

3.4.1 : RCS Pressure, Temperature, and Flow Departure from Nucleate Boiling (DNB) Limits

NRC RAI Number

3.4.1 - 1

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4..01

ITS LCO 3.4.1.c

CTS 3.1.G.c

CLB

The proposed ITS and CTS require RCS total flow rate to be greater than or equal to 331,840 gpm. The STS has an additional phrase which was not adopted by IP2 ("and greater than or equal to the limit specified in the COLR"). The NUREG markup lists CLB for not adopting the additional phrase. However, CLB is not defined in the justification of differences.

Comment: Provide a JFD for the CLB listed for ITS LCO 3.4.1.c, SR 3.4.1.3, and SR 3.4.1.1.

Entergy (IP2) Response:

CTS 3.1.G.c identifies the minimum reactor coolant system flow for IP2 and there are no additional restrictions identified in the COLR.

ITS LCO 3.4.1.c maintains the existing requirements for minimum reactor coolant system flow exactly as established by CTS 3.1.G.c.

Entergy (IP2) Action:

None.

3.4.1 : RCS Pressure, Temperature, and Flow Departure from Nucleate Boiling (DNB) Limits

NRC RAI Number	TAC Number:
3.4.1 - 2	MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.02
TS 3.4.1 Applicability Note
CTS 3.1.G
PA1

JFD PA1 adds the word "increase" to ITS 3.4.1 Applicability Note a and b. This change is not consistent with the STS or CTS. This is not a plant specific change and as such, the STS wording should be maintained.

Comment: Maintain the STS wording for ITS 3.4.1 Applicability.

Entergy (IP2) Response:

IP2 will delete the word "increase" in ITS 3.4.1 Applicability Notes a and b.

Entergy (IP2) Action:

IP2 will delete the word "increase" in ITS 3.4.1 Applicability Notes a and b.

3.4.3 : RCS Pressure and Temperature (P/T) Limits

NRC RAI Number

TAC Number:

3.4.3 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.03

CTS 3.1.B.1

LA1

CTS 3.1.B.1 states that "the heatup or cooldown rate shall not exceed 100°F/hr." This statement is marked as LA1 which would relocate it to the ITS 3.4.3 Bases. This statement does not appear in the Bases. Additionally, this statement is a requirement and not detail that can be relocated to the Bases. Normally, this requirement would be contained within the PTLR. However, IP2 ITS is not adopting a PTLR. Therefore, this specification should be retained in the IP2 ITS 3.4.3

Comment: Retain CTS 3.1.B.1 statement in the ITS 3.4.3 LCO.

Entergy (IP2) Response:

ITS LCO 3.4.3 requires that "RCS pressure, RCS temperature, and RCS heatup and cooldown rates shall be maintained within the limits specified in Figure 3.4.3-1 and Figure 3.4.3-2." The maximum heatup and cooldown rate permitted by Figure 3.4.3-1 and Figure 3.4.3-2 is 100 F per hour. IP2 will revise the LCO section of the Bases to include the statement: "The maximum heatup or cooldown rate is 100 F per hour."

Entergy (IP2) Action:

IP2 will revise the LCO section of the Bases to include the statement: "The maximum heatup or cooldown rate is 100 F per hour."

3.4.3 : RCS Pressure and Temperature (P/T) Limits

NRC RAI Number

TAC Number:

3.4.3 - 2

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.04
CTS 3.1.B.2
CTS 3.1.B.3
CTS 3.1.B.3 footnote
ITS 3.4.3 Bases
LA1

The CTS states that the heatup and cooldown limit lines shall be recalculated periodically using NRC approved methods and results of surveillance specimen testing as covered in WCAP-7323 and as specified in CTS 3.1.B.3. CTS 3.1.B.3 provides the intervals for removing the six specimens. The ITS 3.4.3 Bases states that the operating P/T limit curves will be adjusted, as necessary, based on the evaluation findings and the recommendations of Reg Guide 1.99. The DOC for this change is LA1, which states that this information is being moved to the Bases. However, the CTS words and details do not appear in the Bases, only the STS wording. LA1 does not provide adequate detail to justify the change from the CTS to the ITS 3.4.3 Bases.

Comment: Provide additional detail as to why this change is acceptable.

Entergy (IP2) Response:

CTS Amendment 231, dated July 30, 2002, deleted CTS 3.1.B.3 and the footnote to CTS 3.1.B.3 and CTS 3.1.B.2 except for the statement "The limit lines shown in Figure 3.1.B-1 and Figure 3.1.B-2 shall be recalculated periodically using NRC approved methods." ITS will delete the remaining statement based on the following: CTS Figure 3.1.B-1 and Figure 3.1.B-2 already identify that the curves are valid until the vessel exposure reaches 25 effective full power years; the curves are retained in the ITS as Figures 3.4.3-1 and 3.4.3-2 and can be changed only with the prior approval of the NRC; and, the detailed information about when and how to revise CTS Figure 3.1.B-1 and Figure 3.1.B-2 was already relocated out of the CTS by Amendment 231.

Entergy (IP2) Action:

IP2 will revise ITS Package 3.4.3 to incorporate CTS Amendment 231 and delete DOC LA.1.

3.4.3 : RCS Pressure and Temperature (P/T) Limits

NRC RAI Number

TAC Number:

3.4.3 - 3

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.05

ITS Bases SR 3.4.3.1

The ITS Bases SR 3.4.3.1 states the following: "Verification that operation is within the PTLR limits is required every 30 minutes when RCS pressure and temperature conditions are undergoing planned changes." The IP2 ITS does not have a PTLR.

Comment: Correct the statement in Bases to describe where the limits are, i.e., Figure 3.4.3-1 and Figure 3.4.3-2.

Entergy (IP2) Response:

IP2 will change the reference to the "PTLR" in the Bases for SR 3.4.3.1 to "Figure 3.4.3-1 and Figure 3.4.3-2."

Entergy (IP2) Action:

IP2 will change the reference to the "PTLR" in the Bases for SR 3.4.3.1 to "Figure 3.4.3-1 and Figure 3.4.3-2."

3.4.3 : RCS Pressure and Temperature (P/T) Limits

NRC RAI Number

TAC Number:

3.4.3 - 4

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.06

CTS 4.3.a

CTS 4.3.b

R10

The CTS markup for ITS Section 3.4.3 shows that CTS 4.3.a and 4.3.b are being relocated, R.10. However, the relocation documentation shows the entire CTS 4.3 as being relocated. Correct the documentation to show what is being relocated. If only CTS 4.3.a and 4.3.b are being relocated, then this change should be documented as an LA since the entire specification is not being relocated. Specifically state where this information is going, i.e., Bases, UFSAR, or TRM.

Comment: Correct as noted above.

Entergy (IP2) Response:

IP2 will revise markup for Relocated Item R.10 to show that only CTS 4.3.a and 4.3.b will be relocated to the FSAR. As shown in the CTS markup for ITS LCO 3.4.3, CTS 4.3.c will be retained in the ITS as part of SR 3.4.3.1.

Relocation of CTS 4.3.a and 4.3.b will be maintained as Relocated Item R.10 because all of the ASME Section XI testing requirements are being relocated. CTS 4.3.c is retained in the ITS because it requires that ITS LCO 3.4.3 limits for pressure versus temperature and the ITS LCO 3.4.3 limits for heatup and cooldown must be observed when the ASME Section XI testing is performed.

Entergy (IP2) Action:

IP2 will revise markup for Relocated Item R.10 to show that only CTS 4.3.a and 4.3.b will be relocated to the FSAR.

3.4.4 : RCS Loops - MODES 1 and 2

NRC RAI Number

TAC Number:

3.4.4 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.07

CTS 3.1.A.1

ITS 3.4.4

M1

The Discussion of Changes for ITS 3.4.4 describes M1. M1 does not appear on the CTS markup.

Comment: Correct the CTS markup to illustrate the M1 change.

Entergy (IP2) Response:

ITS 3.4.4, DOC M.1, expands the LCO Applicability in CTS 3.1.A.1.a from "during power operation" to the ITS 3.4.4 Applicability of "Modes 1 and 2." This change is annotated on page 3.1.A-2 of the CTS markup as a change to CTS 3.1.A.1.a.

Entergy (IP2) Action:

None.

3.4.5 : RCS Loops - MODE 3

NRC RAI Number

TAC Number:

3.4.5 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.08

ITS LCO 3.4.5 Note and Note a.

ITS Bases LCO 3.4.5 third paragraph

PA1

PA1 proposes to change the phrase "not in operation for less than or equal to" with "stopped for up to" in the ITS LCO 3.4.5 Note. The wording in STS LCO 3.4.5 Note was approved generically via TSTF-153 and therefore should be maintained. PA1 also proposes to add "of" in ITS LCO 3.4.5 Note a. STS LCO 3.4.5 Note a. wording was approved generically via TSTF-286 Revision 2 and therefore should be maintained.

Comment: Maintain the STS wording for ITS LCO 3.4.5 Note and Note a. Change should also be reflected in the ITS Bases LCO 3.4.5 third paragraph.

Entergy (IP2) Response:

RAI 3.4.5 - 1 (NRC No. 3.4.08), RAI 3.4.6 - 1 (NRC No. 3.4.14), RAI 3.4.7 - 1 (NRC No. 3.4.19), RAI 3.4.8 - 1 (NRC No. 3.4.22), RAI 3.9.3-1, and RAI 3.9.4-1 all address the issue of the STS (NUREG-1431) Note intended to allow forced flow in the RCS to be stopped for some defined period of time. The wording for these Notes in STS (NUREG-1431) used the phrase "pumps may be de-energized for < 1 hour per 8 hour period." TSTF-153 made the Notes more awkward by adopting the phrase "pumps may be not in operation for < 1 hour per 8 hour period." As yet unapproved TSTF-438 proposes the more ambiguous phrase "pumps may be removed from operation for < 1 hour per 8 hour period." This Note has caused and continues to cause considerable confusion. Confusion is caused primarily by the inequality sign prior to the time limit and philosophical discussions about the difference between the terms "stopped," "de-energized," and "not in operation." The intent of the Note is to allow all forced flow in the RCS to be stopped for up to 1 hour in any 8 hour period. Therefore, IP2 will maintain the language proposed in the IP2 submittal (e.g., "pumps may be stopped for up to 1 hour per 8 hour period"). IP2 believes that substitution of the term "stopped for up to 1 hour" for "be not in operation for < 1 hour" results in a significant improvement in clarity with no change to the technical requirement.

Changes to STS (NUREG-1431), LCO 3.4.5, Note a (i.e., adding the word 'of' are addressed in RAI 3.4.5 - 2 (NRC No.3.4.09).

Entergy (IP2) Action:

None.

3.4.5 : RCS Loops - MODE 3

NRC RAI Number

TAC Number:

3.4.5 - 2

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.09

ITS 3.4.5 Condition D

ITS 3.4.5 Required Action D.2

PA1

PA1 proposes to change the second condition of STS 3.4.5 Condition D to "No RCS loops in operation." The wording in STS 3.4.5 Condition D was approved generically via TSTF-263 Revision 3 and therefore should be maintained. PA1 also proposes to add "of" in ITS 3.4.5 Action D.2. STS 3.4.5 Action D.2 wording was approved generically via TSTF-286 Revision 2 and therefore should be maintained.

Comment: Maintain the STS wording for ITS 3.4.5 Condition D and Action D.2.

Entergy (IP2) Response:

Part 1:

STS (NUREG-1431), LCO 3.4.5, Condition D, reads "[Required] RCS loop(s) not in operation." At IP2, the condition that the STS is attempting to describe will exist only when there are no RCS loops in operation. IP2 believes that the statement "No RCS loop in operation" is more clear and concise than "Required RCS loop not in operation." The identical change was approved for the IP3 ITS in IP3 Amendment 205.

Part 2:

STS (NUREG-1431), LCO 3.4.5, Part a to Note, reads: "No operations are permitted that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1" and the associated Required Action in STS (NUREG-1431), LCO 3.4.5, Required Action D.2, reads: "Suspend operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet SDM of LCO 3.1.1."

IP2 believes these statements are ambiguous and confusing. This wording is intended to allow injection into the RCS of water with a boron concentration that is equal to or greater than the minimum boron concentration needed to meet LCO 3.1.1 even if the water being injected has a lower boron concentration than the water already in the RCS.

Therefore, IP2 originally proposed to replace the expression "introduction into the RCS, coolant" with "introduction into the RCS of coolant."

IP2 now proposes the following changes:

IP2 LCO 3.4.5, Part a to Note, will read as follows:

"No operations are permitted that would cause introduction into the RCS 'of any' coolant with 'a' boron concentration less than 'that' required to meet the SDM of LCO 3.1.1;" and,

IP2 LCO 3.4.5, Required Action D.2, will read as follows:

"Suspend operations that would cause introduction into the RCS 'of any' coolant with 'a' boron concentration less than 'that' required to meet SDM of LCO 3.1.1."

Bases for IP2 LCO 3.4.5, Part a to Note, will add the following:

"This Note does not prohibit injection into the RCS of water with a boron concentration that is equal to or greater than the minimum boron concentration needed to meet the SDM requirement in LCO 3.1.1 even if the water being injected has a lower boron concentration than the water already in the RCS."

Bases for IP2 LCO 3.4.5, Required Action D.2, will add the following:

"Action D.2 does not prohibit injection into the RCS of water with a boron concentration that is equal to or greater than the minimum boron concentration needed to meet the SDM requirement in LCO 3.1.1 even if the water being injected has a lower boron concentration than the water already in the RCS."

The discussion above applies to all of the following:

LCO 3.4.5, LCO Note part a; (See RAI 3.4.5-1)
LCO 3.4.5, Required Action D.2;

LCO 3.4.6, LCO Note 1, part a;
LCO 3.4.5, Required Action B.1;

LCO 3.4.7, LCO Note 1.a;
LCO 3.4.7, Required Action C.1;

LCO 3.4.8, LCO Note 1.b;
LCO 3.4.7, Required Action B.1;

LCO 3.9.2, Required Action A.2;
LCO 3.9.3, LCO Note and Required Action A.1;
LCO 3.9.4, Required Action B

Entergy (IP2) Action:

IP2 will revise the LCO Notes, Required Actions and associated Bases as described above.

3.4.5 : RCS Loops - MODE 3

NRC RAI Number

TAC Number:

3.4.5 - 3

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.10

ITS SR 3.4.5.2

CTS 3.1.A.2

ITS Bases SR3.4.5.2 Insert B.3.4.5-5-01

M2

The CTS markup shows the addition of the requirement of "secondary side water level 'greater than or equal to '0% narrow range.'" M2 describes this additional acceptance criteria. ITS SR 3.4.5.2 markup states "secondary side water levels are 'greater than or equal to' 17% narrow range." The ITS markup and the CTS markup are not consistent.

Comment: Correct the ITS, CTS and ITS Bases markups to illustrate the correct acceptance criteria for secondary side SG water level.

Entergy (IP2) Response:

Markup of CTS 3.1.A.2 and STS (NUREG-1431), SR 3.4.5.2, will be revised to show that a SG level of 0% Narrow Range will ensure that SG tubes are covered.

Entergy (IP2) Action:

IP2 will revise markup of CTS 3.1.A.2 and STS (NUREG-1431), SR 3.4.5.2, as described above.

3.4.5 : RCS Loops - MODE 3

NRC RAI Number

TAC Number:

3.4.5 - 4

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.11

ITS SR 3.4.5.3

ITS Bases SR 3.4.5.3

PA1

M3

M3 adds ITS SR 3.4.5.3 to the CTS. STS SR 3.4.5.3 requires that every 7 days, verify correct breaker alignment and indicated power are available to each required pump. IP2 ITS 3.4.5.3 would add "that is not in operation" to the end of the sentence. PA1 does not provide adequate justification for the addition of "that is not in operation" and the proposed change is not consistent with the CTS. Therefore, the STS SR 3.4.5.3 wording should be maintained.

Comment: Maintain the STS wording for ITS SR 3.4.5.3 and ITS Bases SR 3.4.5.3.

Entergy (IP2) Response:

RAI 3.4.5 - 4 (NRC No. 3.4.11), RAI 3.4.6 - 3 (NRC No. 3.4.16), RAI 3.4.7 - 3 (NRC No. 3.4.21) and RAI 3.4.8 - 2 (NRC No. 3.4.23) identify the same issue and the responses are essentially identical.

STS (NUREG-1431), LCO 3.4.5, requires a minimum number of reactor coolant pumps operable in Mode 3; and, depending on the status of the rod control system, either one or both of the operable pumps must also be in operation. STS (NUREG-1431), SR 3.4.5.1, requires verification every 12 hours that pumps required to be in operation are in fact operating.

STS (NUREG-1431), SR 3.4.5.3, requires verification of "correct breaker alignment and indicated power are available" to pumps required to be operable but not in operation. Prior to revision 2 of STS (NUREG-1431), SR 3.4.5.3 read as follows: "Verify correct breaker alignment and indicated power are available to each required pump that is not in operation." This wording was adopted by IP2 ITS which was approved by IP3 Amendment 205.

In revision 2 of STS (NUREG-1431), SR 3.4.5.3 was changed to read as follows: "Verify correct breaker alignment and indicated power are available to each required pump." This difference appears to create a requirement to perform SR 3.4.5.3 for pumps that are both operable and in operation. However, the Bases for SR 3.4.5.3 contradict this conclusion with the statement "Alternatively, verification that a pump is in operation also verifies proper breaker alignment and power availability." The subtle difference between Revision 2 of STS (NUREG-1431) and prior revisions is that although there is no difference in the actual verifications being performed, Revision 2 will require completion of SR 3.4.5.3 paperwork for pumps that are in operation.

IP2 will use the wording from revision 1 of STS (NUREG-1431) which is consistent with wording already approved for IP3 in order to minimize confusion.

Entergy (IP2) Action:

None.

3.4.5 : RCS Loops - MODE 3

NRC RAI Number

TAC Number:

3.4.5 - 5

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.12

ITS Bases 3.4.5 Applicability (sic)

PA1

ITS Bases 3.4.5 Applicability (sic) markup proposes to delete the last two sentences of paragraph one. PA1 does not provide adequate justification for the proposed change.

Comment: Provide additional justification for the proposed change or maintain the STS Bases 3.4.5 Applicability wording.

Entergy (IP2) Response:

STS (NUREG-1431), LCO 3.4.5, requires a minimum number of reactor coolant pumps operable in Mode 3; and, depending on the status of the rod control system, either one or both of the operable pumps must also be in operation.

STS (NUREG-1431), LCO 3.4.5, Bases for Applicable Safety Analysis, includes the statement: "In addition, the possibility of a power excursion due to the ejection of an inserted control rod is possible with the breakers closed or open. Such a transient could be caused by the mechanical failure of a CRDM." This statement is intended to mean that two reactor coolant pumps in operation is a required initial condition in the analysis of a rod ejection event from a subcritical condition.

IP2 FSAR 14.1.1.1 does identify two reactor coolant pumps in operation as an initial condition for an uncontrolled rod withdrawal from the subcritical condition. However, IP2 FSAR 14.2.6, Rupture of A Control Rod Mechanism Housing - Rod Cluster Control Assembly Ejection, addresses a rod ejection at full power and zero power but does not address a rod ejection event initiated from Mode 3. Therefore, the statement in STS (NUREG-1431), LCO 3.4.5, Bases for Applicable Safety Analysis, is outside the scope of the IP2 accident analysis, could not be confirmed, and was deleted.

Entergy (IP2) Action:

None.

3.4.5 : RCS Loops - MODE 3

NRC RAI Number

TAC Number:

3.4.5 - 6

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.13

ITS Bases 3.4.5 Actions D.1, D.2, and D.3

PA1

ITS Bases 3.4.5 Actions D.1, D.2, and D.3 markup proposes to delete the following from the STS bases: "except as during conditions permitted by the Note in the LCO section," and "and opening the RTBs or de-energizing the MG sets removes the possibility of an inadvertent rod withdrawal. Suspending the introduction of coolant into the RCS of coolant with boron concentration less than required to meet the minimum SDM of LCO 3.1.1 is required to assure continued safe operation." PA1 does not provide adequate justification for the proposed change.

Comment: Provide additional justification for the proposed change or maintain the STS Bases 3.4.5 Actions D.1, D.2, and D.3 wording.

Entergy (IP2) Response:

STS (NUREG-1431), LCO 3.4.5, Bases includes the following:

"All operations involving introduction of coolant into the RCS with boron concentration less than required to meet the minimum SDM of LCO 3.1.1 must be suspended, and action to restore one of the RCS loops to OPERABLE status and operation must be initiated. Boron dilution requires forced circulation for proper mixing, and opening the RTBs or de-energizing the MG sets removes the possibility of an inadvertent rod withdrawal. Suspending the introduction of coolant into the RCS of coolant with boron concentration less than required to meet the minimum SDM of LCO 3.1.1 is required to assure continued safe operation. With coolant added without forced circulation, unmixed coolant could be introduced to the core, however coolant added with boron concentration meeting the minimum SDM maintains acceptable margin to subcritical operations."

This statement was revised to read as follows:

"All operations involving introduction of coolant into the RCS with boron concentration less than required to meet the minimum SDM of LCO 3.1.1 must be suspended, and action to restore one of the RCS loops to OPERABLE status and operation must be initiated."

"Theses actions are necessary because boron dilution requires forced circulation for proper mixing. With coolant added without forced circulation, unmixed coolant could be introduced to the core, however coolant added with boron concentration meeting the minimum SDM maintains acceptable margin to subcritical operations."

The IP2 version deletes the phrase "and opening the RTBs or de-energizing the MG sets removes the possibility of an inadvertent rod withdrawal" because it was interjected into the middle of an explanation why coolant injection has to be restricted and disabling rod withdrawal is unrelated to why coolant injection has to be restricted. Reasons why rod withdrawal must be prevented are explained

in safety analysis section of Bases and do not need to be repeated.

The IP2 version deletes the sentence "Suspending the introduction of coolant into the RCS of coolant with boron concentration less than required to meet the minimum SDM of LCO 3.1.1 is required to assure continued safe operation" because it is a platitude that adds noise to the explanation of why coolant injection must be restricted. If the action is not "required to assure continued safe operation," then it would not be a Required Action.

Entergy (IP2) Action:

None.

3.4.6 : RCS Loops - MODE 4

NRC RAI Number

TAC Number:

3.4.6 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.14

TS LCO 3.4.6 Note 1

ITS Bases LCO 3.4.6 second paragraph

PA1

PA1 proposes to change the phrase "not in operation for greater than or equal to" with "stopped for up to" in the ITS LCO 3.4.6 Note. The wording in STS LCO 3.4.6 Note was approved generically via TSTF-153 and therefore should be maintained.

Comment: Maintain the STS wording for ITS LCO 3.4.6 Note. Change should also be reflected in the ITS Bases LCO 3.4.6 second paragraph.

Entergy (IP2) Response:

RAI 3.4.5 - 1 (NRC No. 3.4.08), RAI 3.4.6 - 1 (NRC No. 3.4.14), RAI 3.4.7 - 1 (NRC No. 3.4.19), RAI 3.4.8 - 1 (NRC No. 3.4.22), RAI 3.9.3-1, and RAI 3.9.4-1 all address the issue of the STS (NUREG-1431) Note intended to allow forced flow in the RCS to be stopped for some defined period of time. The wording for these Notes in STS (NUREG-1431) used the phrase "pumps may be de-energized for < 1 hours per 8 hour period." TSTF-153 made the Notes more awkward by adopting the phrase "pumps may be not in operation for < 1 hour per 8 hour period." As yet unapproved TSTF-438 proposes the more ambiguous phrase "pumps may be removed from operation for < 1 hours per 8 hour period." This Note has caused and continues to cause considerable confusion. Confusion is caused primarily by the inequality sign prior to the time limit and philosophical discussions about the difference between the terms "stopped," "de-energized," and "not in operation." The intent of the Note is to allow all forced flow in the RCS to be stopped for up to 1 hour in any 8 hour period. Therefore, IP2 will maintain the language proposed in the IP2 submittal (e.g., "pumps may be stopped for up to 1 hour per 8 hour period"). IP2 believes that substitution of the term "stopped for up to 1 hour" for "be not in operation for < 1 hour" results in a significant improvement in clarity with no change to the technical requirement.

Entergy (IP2) Action:

None

3.4.6 : RCS Loops - MODE 4

NRC RAI Number

TAC Number:

3.4.6 - 2

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.15

ITS LCO 3.4.6 Note 2

CTS 3.1.A.1.d

ITS LCO 3.4.6 Note 2 states that no RCP shall be started with any RCS cold leg temperature less than or equal to the Applicability temperature for LCO 3.4.12, unless the requirements for RCP starting in LCO 3.4.12 are met. CTS 3.1.A.1.d specifically states that the requirements of CTS 3.1.A.4 shall be adhered to when starting an RCP with no other RCP operating. CTS 3.1.A.1.d applies to the first RCP startup while ITS LCO 3.4.6 Note 2 refers to all RCP startups. No justification was provided for this inconsistency. Additionally, RCP startup requirements do not appear to meet the requirements of 50.36. As such, ITS LCO 3.4.6 Note 2 should say something similar to no RCP shall be started with any RCS cold leg temperature = 280°F unless specified by procedure (or TRM). Refer to ITS 3.4.12 RAIs for additional questions on RCP startup.

Comment: Provide justification for the differences in the CTS and ITS regarding RCP in ITS LCO 3.4.6 Note 2. Revise Note 2 to refer to specific temperature and not to the LTOP Applicability. Revise the remainder of Note 2 to reflect the revisions to 3.4.12 based on RAIs.

Entergy (IP2) Response:

This RAI and the response are essentially identical to RAI 3.4.7 - 2 (NRC No. 3.4.20). This issue is also addressed in RAI 3.4.12 - 2 (NRC No. 3.4.37).

STS (NUREG-1431), LCO 3.4.6, Note 2, states the following:

"No RCP shall be started with any RCS cold leg temperature < [275 F] [Low Temperature Overpressure Protection (LTOP) arming temperature specified in the PTLR] unless the secondary side water temperature of each steam generator (SG) is < [50] F above each of the RCS cold leg temperatures." As explained in the Bases, this note establishes a requirement that ensures low temperature overpressure protection requirements are met. Although this requirement should be part of LCO 3.4.12, Low Temperature Overpressure Protection, it is included as a Note to LCO 3.4.6, RCS Loops-Mode 4, because someone believed that operators would be more likely to observe the requirement and comply if the requirement was placed in this location.

IP2 ITS LCO 3.4.6, Note 2, and IP2 ITS LCO 3.4.7, Note 3, each state:

No RCP shall be started with any RCS cold leg temperature less than or equal to the Applicability temperature for LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP)," unless the requirements for RCP starting in LCO 3.4.12 are met.

There are two significant differences between STS (NUREG-1431), LCO 3.4.6, Note 2, and proposed IP2 ITS LCO 3.4.6, Note 2.

The first difference is that STS (NUREG-1431), LCO 3.4.6, Note 2, establishes stand alone LTOP requirements that do not appear anywhere else in the Technical Specifications. This was possible because the requirements for RCP starting under LTOP in the STS are very simple. IP2 ITS LCO 3.4.6, Note 2, does not establish any technical requirements - it is a pointer to the location where the requirements are located (i.e., LCO 3.4.12). This was necessary because the IP2 LTOP restrictions for reactor coolant pump starting are very, very complex (See SR 3.4.12.8). Note that ITS LCO 3.4.12, SR 3.4.12.8, specifies that LTOP restrictions on pump starting apply only if no other RCP is in operation. This was done deliberately so that the ITS LCO 3.4.6 Note was as simple as possible and so that all of the RCP pump starting requirements were in one place (i.e., there was no potential that LCO 3.4.6, Note 2, would contradict LCO 3.4.12).

The second difference is that STS (NUREG-1431), LCO 3.4.6, Note 2, would appear to require a specific value for the LTOP Applicability temperature. This creates an administrative burden which will require amendments to numerous LCOs when the LTOP temperature changes. Note that STS (NUREG-1431) allows the LTOP Applicability temperature to be maintained in the PTLR (i.e., requires the operator to reference a different document to determine the LTOP Applicability Temperature). Therefore, there should be no problem maintaining the LTOP Applicability Temperature in the LTOP Applicability statement in LCO 3.4.12. This same issue is discussed in RAI 3.4.7 - 2 (NRC No. 3.4.1.20(sic)), RAI 3.4.10 - 4 (NRC No. 3.4.30), RAI 3.4.10 - 5 (NRC No. 3.4.31), and RAI 3.4.12 - 13 (NRC No. 3.4.48).

Entergy (IP2) Action:

None.

3.4.6 : RCS Loops - MODE 4

NRC RAI Number

TAC Number:

3.4.6 - 3

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.16

ITS SR 3.4.6.3

ITS Bases SR 3.4.6.3

M3

M3 adds ITS SR 3.4.6.3 to the CTS. STS SR 3.4.6.3 requires that every 7 days, verify correct breaker alignment and indicated power are available to each required pump. IP2 ITS 3.4.6.3 would add "that is not in operation" to the end of the sentence. No justification for difference was provided for this change. Additionally, the proposed change is not consistent with the CTS. Therefore, the STS SR 3.4.6.3 wording should be maintained.

Comment: Maintain the STS wording for ITS SR 3.4.6.3 and ITS Bases SR 3.4.6.3.

Entergy (IP2) Response:

RAI 3.4.5 - 4 (NRC No. 3.4.11), RAI 3.4.6 - 3 (NRC No. 3.4.16), RAI 3.4.7 - 3 (NRC No. 3.4.21) and RAI 3.4.8 - 2 (NRC No. 3.4.23) identify the same issue and the responses are essentially identical.

STS (NUREG-1431), LCO 3.4.6, requires a minimum number of reactor coolant pumps or RHR pumps operable in Mode 4; and, one of the operable pumps must also be in operation. STS (NUREG-1431), SR 3.4.6.3, requires verification every 12 hours that pumps required to be in operation are in fact operating.

STS (NUREG-1431), SR 3.4.6.3, requires verification of "correct breaker alignment and indicated power are available" to pumps required to be operable but not in operation. Prior to revision 2 of STS (NUREG-1431), SR 3.4.6.3 read as follows: "Verify correct breaker alignment and indicated power are available to each required pump that is not in operation." This wording was adopted by IP2 ITS which was approved by IP3 Amendment 205.

In revision 2 of STS (NUREG-1431), SR 3.4.6.3 was changed to read as follows: "Verify correct breaker alignment and indicated power are available to each required pump." This difference appears to create a requirement to perform SR 3.4.6.3 for pumps that are both operable and in operation. However, the Bases for SR 3.4.6.3 contradict this conclusion with the statement "Alternatively, verification that a pump is in operation also verifies proper breaker alignment and power availability." The subtle difference between Revision 2 of STS (NUREG-1431) and prior revisions is that although there is no difference in the actual verifications being performed, Revision 2 will require completion of SR 3.4.6.3 paperwork for pumps that are in operation.

IP2 will use the wording from revision 1 of STS (NUREG-1431) which is consistent with wording already approved for IP3 in order to minimize confusion.

Entergy (IP2) Action:

None

3.4.6 : RCS Loops - MODE 4

NRC RAI Number

TAC Number:

3.4.6 - 4

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.17

ITS Bases 3.4.6 Actions B.1 and B.2

PA1

PA1 proposes to change the first sentence of ITS Bases 3.4.6 Actions B.1 and B.2 to state "...or no loop is in operation." This wording is not consistent with ITS 3.4.6 Condition B which states "Required loop not in operation."

Comment: Maintain the STS Bases 3.4.6 Actions B.1 and B.2 wording.

Entergy (IP2) Response:

STS (NUREG-1431), LCO 3.4.6, requires that two loops are operable and that one loop is in operation. Condition B is "Required loop not in operation" which means "No loop in operation." The description of Condition B in the Bases was revised from "a required loop is not in operation" to "no loop is in operation." This change was made to avoid repeating Condition B in the explanation of what Condition B means.

Entergy (IP2) Action:

None.

3.4.6 : RCS Loops - MODE 4

NRC RAI Number

3.4.6 - 5

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.18

ITS Bases 3.4.6 Actions B.1 and B.2

PA1

PA1 proposes to delete the following sentence in ITS Bases 3.4.6 Actions B.1 and B.2: "The required margin to criticality must not be reduced in this type of operation." PA1 did not provide adequate justification for the deletion of the sentence which should be retained.

Comment: Maintain the STS Bases 3.4.6 Actions B.1 and B.2 wording.

Entergy (IP2) Response:

The statement in the Bases for LCO 3.4.6, Actions B.1 and B.2, that "The required margin to criticality must not be reduced in this type of operation" was deleted because it is unnecessary and potentially ambiguous. The "required margin to criticality" when in Mode 4 is established by ITS LCO 3.1.1, SHUTDOWN MARGIN (SDM). IP2 does not believe the intent of this sentence is to advise operators not to cause a change to requirements established by LCO 3.1.1. Additionally, the statement "margin to criticality must not be reduced in this type of operation" was deleted because LCO 3.4.6, Actions B.1 and B.2, do not prohibit injection into the RCS of water with a boron concentration that is equal to or greater than the minimum boron concentration needed to meet LCO 3.1.1 even if the water being injected has a lower boron concentration than the water already in the RCS. Therefore, the statement was deleted.

Entergy (IP2) Action:

None.

3.4.7 : RCS Loops - MODE 5, Loops Filled

NRC RAI Number

TAC Number:

3.4.7 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.19

ITS LCO 3.4.7 Note 1 and 1.a

ITS Bases LCO 3.4.7 second paragraph

PA1

PA1 proposes to change the phrase "not in operation for less than or equal to" with "stopped for up to" in the ITS LCO 3.4.7 Note 1. The wording in STS LCO 3.4.7 Note 1 was approved generically via TSTF-153 and therefore should be maintained. PA1 also proposes to add "of" in ITS LCO 3.4.7 Note 1.a. STS LCO 3.4.7 Note 1.a wording was approved generically via TSTF-286 Revision 2 and therefore should be maintained.

Comment: Maintain the STS wording for ITS LCO 3.4.7 Note 1 and Note 1.a. Change should also be reflected in the ITS Bases LCO 3.4.7 second paragraph.

Entergy (IP2) Response:

RAI 3.4.5 - 1 (NRC No. 3.4.08), RAI 3.4.6 - 1 (NRC No. 3.4.14), RAI 3.4.7 - 1 (NRC No. 3.4.19), RAI 3.4.8 - 1 (NRC No. 3.4.22), RAI 3.9.3-1, and RAI 3.9.4-1 all address the issue of the STS (NUREG-1431) Note intended to allow forced flow in the RCS to be stopped for some defined period of time. The wording for these Notes in STS (NUREG-1431) used the phrase "pumps may be de-energized for < 1 hours per 8 hour period." TSTF-153 made the Notes more awkward by adopting the phrase "pumps may be not in operation for < 1 hour per 8 hour period." As yet unapproved TSTF-438 proposes the more ambiguous phrase "pumps may be removed from operation for < 1 hour per 8 hour period." This Note has caused and continues to cause considerable confusion. Confusion is caused primarily by the inequality sign prior to the time limit and philosophical discussions about the difference between the terms "stopped," "de-energized," and "not in operation." The intent of the Note is to allow all forced flow in the RCS to be stopped for up to 1 hour in any 8 hour period. Therefore, IP2 will maintain the language proposed in the IP2 submittal (e.g., "pumps may be stopped for up to 1 hour per 8 hour period"). IP2 believes that substitution of the term "stopped for up to 1 hour" for "be not in operation for < 1 hour" results in a significant improvement in clarity with no change to the technical requirement.

Changes to STS (NUREG-1431), LCO 3.4.7, Note 1.a, are addressed in RAI 3.4.5 - 2 (NRC No.3.4.09).

Entergy (IP2) Action:

None

3.4.7 : RCS Loops - MODE 5, Loops Filled

NRC RAI Number

TAC Number:

3.4.7 - 2

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.1.20 (sic)

ITS LCO 3.4.7 Note 3

CTS 3.1.A.1.d

ITS LCO 3.4.7 Note 3 states that no RCP shall be started with any RCS cold leg temperature less than or equal to the Applicability temperature for LCO 3.4.12, unless the requirements for RCP starting in LCO 3.4.12 are met. CTS 3.1.A.1.d specifically states that the requirements of CTS 3.1.A.4 shall be adhered to when starting an RCP with no other RCP operating. CTS 3.1.A.1.d applies to the first RCP startup while ITS LCO 3.4.7 Note 3 refers to all RCP startups. No justification was provided for this inconsistency. Additionally, RCP startup requirements do not appear to meet the requirements of 50.36. As such, ITS LCO 3.4.7 Note 3 should say something similar to no RCP shall be started with any RCS cold leg temperature less than or equal to 280°F unless specified by procedure (or TRM). Refer to ITS 3.4.12 RAIs for additional questions on RCP startup.

Comment: Provide justification for the differences in the CTS and ITS regarding RCP in ITS LCO 3.4.7 Note 3. Revise Note 3 to refer to specific temperature and not to the LTOP Applicability. Revise the remainder of Note 3 to reflect the revisions to 3.4.12 based on RAIs.

Entergy (IP2) Response:

This RAI and the response are essentially identical to RAI 3.4.6 - 2 (NRC No. 3.4.15). This issue is also addressed in RAI 3.4.12 - 2 (NRC No. 3.4.37).

STS (NUREG-1431), LCO 3.4.7, Note 3, states the following:

"No RCP shall be started with any RCS cold leg temperature < [275 F] [Low Temperature Overpressure Protection (LTOP) arming temperature specified in the PTLR] unless the secondary side water temperature of each steam generator (SG) is < [50] F above each of the RCS cold leg temperatures." As explained in the Bases, this note establishes a requirement that ensures low temperature overpressure protection requirements are met. Although this requirement should be part of LCO 3.4.12, Low Temperature Overpressure Protection, it is included as a Note to LCO 3.4.7, RCS Loops-Mode 5, Loops Filled, because someone believed that operators would be more likely to observe the requirement and comply if the requirement was placed in this location.

IP2 ITS LCO 3.4.6, Note 2, and IP2 ITS LCO 3.4.7, Note 3, each state:

No RCP shall be started with any RCS cold leg temperature less than or equal to the Applicability temperature for LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP)," unless the requirements for RCP starting in LCO 3.4.12 are met.

There are two significant differences between STS (NUREG-1431), LCO 3.4.7, Note 3, and proposed IP2 ITS LCO 3.4.7, Note 3.

The first difference is that STS (NUREG-1431), LCO 3.4.7, Note 3, establishes stand alone LTOP requirements that do not appear anywhere else in the Technical Specifications. This was possible because the reactor coolant pump starting restrictions for the plant described in NUREG-1431 are very simple. IP2 ITS LCO 3.4.7, Note 3, does not establish any technical requirements - it is a pointer to the location where the requirements are located (i.e., LCO 3.4.12). This was necessary because the IP2 LTOP restrictions for reactor coolant pump starting are very, very complex (See SR 3.4.12.8). Note that ITS LCO 3.4.12, SR 3.4.12.8, specifies that LTOP restrictions on pump starting apply only if no other RCP is in operation. This was done deliberately so that the ITS LCO 3.4.7 Note was as simple as possible and so that all of the RCP pump starting requirements were in one place (i.e., there was no potential that LCO 3.4.7, Note 3, would contradict LCO 3.4.12).

The second difference is that STS (NUREG-1431), LCO 3.4.7, Note 3, would appear to require a specific value for the LTOP Applicability temperature. This creates an administrative burden which will require amendments to numerous LCOs when the LTOP temperature changes. Note that STS (NUREG-1431) allows the LTOP Applicability temperature to be maintained in the PTLR (i.e., requires the operator to reference a different document to determine the LTOP Applicability Temperature). Therefore, there should be no problem maintaining the LTOP Applicability Temperature in the LTOP Applicability statement in LCO 3.4.12. This same issue is discussed in RAI 3.4.6 - 2 (NRC No. 3.4.15), RAI 3.4.10 - 4 (NRC No. 3.4.30), RAI 3.4.10 - 5 (NRC No. 3.4.31), and RAI 3.4.12 - 13 (NRC No. 3.4.48).

Entergy (IP2) Action:

None.

3.4.7 : RCS Loops - MODE 5, Loops Filled

NRC RAI Number

TAC Number:

3.4.7 - 3

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.21

ITS SR 3.4.7.3

M3

M3 adds ITS SR 3.4.7.3 to the CTS. STS SR 3.4.7.3 requires that every 7 days, verify correct breaker alignment and indicated power are available to each required pump. IP2 ITS 3.4.7.3 would add "that is not in operation" to the end of the sentence. No justification for difference was provided for this change. Additionally, the proposed change is not consistent with the CTS. Therefore, the STS SR 3.4.7.3 wording should be maintained.

Comment: Maintain the STS wording for ITS SR 3.4.7.3.

Entergy (IP2) Response:

RAI 3.4.5 - 4 (NRC No. 3.4.11), RAI 3.4.6 - 3 (NRC No. 3.4.16), RAI 3.4.7 - 3 (NRC No. 3.4.21) and RAI 3.4.8 - 2 (NRC No. 3.4.23) identify the same issue and the responses are essentially identical.

STS (NUREG-1431), LCO 3.4.7, requires a minimum number of reactor coolant pumps operable in Mode 5; and, one of the operable pumps must also be in operation. STS (NUREG-1431), SR 3.4.7.3, requires verification every 12 hours that pumps required to be in operation are in fact operating.

STS (NUREG-1431), SR 3.4.7.3, requires verification of "correct breaker alignment and indicated power are available" to pumps required to be operable but not in operation. Prior to revision 2 of STS (NUREG-1431), SR 3.4.7.3 read as follows: "Verify correct breaker alignment and indicated power are available to each required pump that is not in operation." This wording was adopted by IP2 ITS which was approved by IP3 Amendment 205.

In revision 2 of STS (NUREG-1431), SR 3.4.7.3 was changed to read as follows: "Verify correct breaker alignment and indicated power are available to each required pump." This difference appears to create a requirement to perform SR 3.4.7.3 for pumps that are both operable and in operation. However, the Bases for SR 3.4.7.3 contradict this conclusion with the statement "Alternatively, verification that a pump is in operation also verifies proper breaker alignment and power availability." The subtle difference between Revision 2 of STS (NUREG-1431) and prior revisions is that although there is no difference in the actual verifications being performed, Revision 2 will require completion of SR 3.4.7.3 paperwork for pumps that are in operation.

IP2 will use the wording from revision 1 of STS (NUREG-1431) which is consistent with wording already approved for IP3 in order to minimize confusion.

Entergy (IP2) Action:

None.

3.4.8 : RCS Loops - MODE 5, Loops Not Filled

NRC RAI Number

TAC Number:

3.4.8 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.22

ITS LCO 3.4.8 Note 1 and 1.b

ITS 3.4.8 Required Action B.1

ITS Bases LCO 3.4.8 second paragraph

PA1

PA1 proposes to change the phrase "not in operation for less than or equal to" with "stopped for up to" in the ITS LCO 3.4.8 Note 1. The wording in STS LCO 3.4.8 Note 1 was approved generically via TSTF-153 and therefore should be maintained. PA1 also proposes to add "of" in ITS LCO 3.4.8 Note 1.b and Required Action B.1. STS LCO 3.4.8 Note 1.b and Required Action B.1 wording was approved generically via TSTF-286 Revision 2 and therefore should be maintained.

Comment: Maintain the STS wording for ITS LCO 3.4.8 Note 1, Note 1.b, and Required Action B.1. Change should also be reflected in the ITS Bases LCO 3.4.7 second paragraph.

Entergy (IP2) Response:

RAI 3.4.5 - 1 (NRC No. 3.4.08), RAI 3.4.6 - 1 (NRC No. 3.4.14), RAI 3.4.7 - 1 (NRC No. 3.4.19), RAI 3.4.8 - 1 (NRC No. 3.4.22), RAI 3.9.3-1, and RAI 3.9.4-1 all address the issue of the STS (NUREG-1431) Note intended to allow forced flow in the RCS to be stopped for some defined period of time. The wording for these Notes in STS (NUREG-1431) used the phrase "pumps may be de-energized for < 1 hours per 8 hour period." (Except LCO 3.4.8, RCS Loops - MODE 5, Loops Not Filled, which limits the no flow condition to 15 minutes when switching from one loop to another.) TSTF-153 made the Notes more awkward by adopting the phrase "pumps may be not in operation for < 1 hour per 8 hour period." As yet unapproved TSTF-438 proposes the more ambiguous phrase "pumps may be removed from operation for < 1 hour per 8 hour period." This Note has caused and continues to cause considerable confusion. Confusion is caused primarily by the inequality sign prior to the time limit and philosophical discussions about the difference between the terms "stopped," "de-energized," and "not in operation." The intent of the Note is to allow all forced flow in the RCS to be stopped for up to 1 hour in any 8 hour period. Therefore, IP2 will maintain the language proposed in the IP2 submittal (e.g., "pumps may be stopped for up to 1 hour per 8 hour period"). IP2 believes that substitution in LCO 3.4.8 of the term "stopped for up to 15 minutes" for "be not in operation for < 15 minutes" results in a significant improvement in clarity with no change to the technical requirement.

Changes to STS (NUREG-1431), LCO 3.4.8, Note 1.b (i.e., adding the word 'of') are addressed in RAI 3.4.5 - 2 (NRC No.3.4.09).

Entergy (IP2) Action:

None.

3.4.8 : RCS Loops - MODE 5, Loops Not Filled

NRC RAI Number

3.4.8 - 2

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.23

ITS SR 3.4.8.2

ITS Bases SR 3.4.8.2

M3

PA1

M3 adds ITS SR 3.4.8.2 to the CTS. STS SR 3.4.8.2 requires that every 7 days, verify correct breaker alignment and indicated power are available to each required pump. IP2 ITS 3.4.8.2 would add "that is not in operation" to the end of the sentence. PA1 does not provide adequate justification for the addition of "that is not in operation" and the proposed change is not consistent with the CTS. Therefore, the STS SR 3.4.8.2 wording should be maintained.

Comment: Maintain the STS wording for ITS SR 3.4.8.2 and ITS Bases SR 3.4.8.2.

Entergy (IP2) Response:

RAI 3.4.5 - 4 (NRC No. 3.4.11), RAI 3.4.6 - 3 (NRC No. 3.4.16), RAI 3.4.7 - 3 (NRC No. 3.4.21) and RAI 3.4.8 - 2 (NRC No. 3.4.23) identify the same issue and the responses are essentially identical.

STS (NUREG-1431), LCO 3.4.8, requires a minimum number of RHR pumps operable in Mode 5 with loops not filled; and, one of the operable pumps must also be in operation. STS (NUREG-1431), SR 3.4.8.2, requires verification every 12 hours that pumps required to be in operation are in fact operating.

STS (NUREG-1431), SR 3.4.8.2, requires verification of "correct breaker alignment and indicated power are available" to pumps required to be operable but not in operation. Prior to revision 2 of STS (NUREG-1431), SR 3.4.8.2 read as follows: "Verify correct breaker alignment and indicated power are available to each required pump that is not in operation." This wording was adopted by IP2 ITS which was approved by IP3 Amendment 205.

In revision 2 of STS (NUREG-1431), SR 3.4.8.2 was changed to read as follows: "Verify correct breaker alignment and indicated power are available to each required pump." This difference appears to create a requirement to perform SR 3.4.8.2 for pumps that are both operable and in operation. However, the Bases for SR 3.4.8.2 contradict this conclusion with the statement "Alternatively, verification that a pump is in operation also verifies proper breaker alignment and power availability." The subtle difference between Revision 2 of STS (NUREG-1431) and prior revisions is that although there is no difference in the actual verifications being performed, Revision 2 will require completion of SR 3.4.8.2 paperwork for pumps that are in operation.

IP2 will use the wording from revision 1 of STS (NUREG-1431) which is consistent with wording already approved for IP3 in order to minimize confusion.

Entergy (IP2) Action:

None.

3.4.9 : Pressurizer

NRC RAI Number

TAC Number:

3.4.9 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.24

ITS LCO 3.4.9 a.

X.1

L1

ITS LCO 3.4.9 a. requires that the pressurizer water level = 60.6%. The CTS markup and DOC L1 also discuss the pressurizer water level less than or equal to 60.6%. However, JFD X1 states that the upper limit on the pressurizer water level is less than or equal to 60.3%. Pressurizer water level should be consistent on all markups, DOCs and JFDs.

Comment: Correct the appropriate documentation to support the pressurizer water level in ITS 3.4.9 a.

Entergy (IP2) Response:

IP2 will correct the typographical error in JFD X.1.

Entergy (IP2) Action:

IP2 will correct the typographical error in JFD X.1.

3.4.9 : Pressurizer

NRC RAI Number

TAC Number:

3.4.9 - 2

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.25

ITS SR 3.4.9.1

PA1

PA1 adds the word "actual" to ITS SR 3.4.9.1. This word is not necessary and not a plant specific or approve generic change. Therefore the original STS SR 3.4.9.1 wording should be maintained.

Comment: Maintain the STS SR 3.4.9.1 wording.

Entergy (IP2) Response:

IP2 added the word "actual" to SR 3.4.9.1 to alert operators to the following discussion in the Bases: "The LCO requires that the actual pressurizer water level less than or equal to 60.6%. Pressurizer level indications in the control room are averaged to come up with a value for comparison to the limit. An additional margin of approximately 5%, should be allowed for instrument error (i.e., the indicated level should not exceed 55.6%)." IP2 concurs that the word "actual" is not necessary.

Entergy (IP2) Action:

IP2 will delete the word "actual" from SR 3.4.9.1.

3.4.9 : Pressurizer

NRC RAI Number

3.4.9 - 3

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.26

STS SR 3.4.9.3

ITS LCO 3.4.9.b.

DB2

Insert 3.4.9-1-01

STS Bases SR 3.4.9.3

ITS LCO 3.4.9.b requires two groups of pressurizer heaters OPERABLE with the capacity of each group greater than or equal to 150 kW with each group powered from a different safeguards power train. STS SR 3.4.9.3 was not adopted in the IP2 ITS but would require the verification of the required pressurizer heaters are capable of being powered from an emergency power supply. IP2 ITS should adopt STS SR 3.4.9.3 to ensure compliance with ITS LCO 3.4.9.b.

Proposed wording for the SR could be: Verify each group of required pressurizer heaters are powered from a different safeguards power train.

Comment: Adopt STS SR 3.4.9.3 and associated Bases to ensure compliance with ITS LCO 3.4.9.b.

Entergy (IP2) Response:

STS (NUREG-1431), SR 3.4.9.3 Bases explains the requirement as a demonstration that pressurizer "heaters can be manually transferred from the normal to the emergency power supply and energized."

STS (NUREG-1431), SR 3.4.9.3 is a bracketed requirement with a clarification in the Bases that "This SR is not applicable if the heaters are permanently powered by Class 1E power supplies."

As stated in the IP2 Bases Background, all IP2 Pressurizer heaters are always powered from 480 V vital buses as follows:

Safeguards Power Train 5A supports heater group 23 (485 kW);
Safeguards Power Train 6A supports heater group 24 (277 kW); and
Safeguards Power Train 2A/3A supports both: heater group 21 from Bus 3A (554 kW); and heater group 22 from Bus 2A (485 kW).

Therefore, SR 3.4.9.3 is not applicable to IP2.

The large number and capacity of heaters supplied from each safeguards power train would make it highly unlikely and very unusual for IP2 not to have at least 150 kW of heater capacity supplied from two different safeguards power trains. Therefore, IP2 elected not to have an SR for routine verification that 150 kW of heater capacity is powered from different trains.

Entergy (IP2) Action:

None.

3.4.10 : Pressurizer Safety Valves

NRC RAI Number

TAC Number:

3.4.10 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.27

CTS 3.1.A.3.a

LA1

CTS 3.1.A.3.a requires at least one pressurizer code safety valve to be operable, or an opening greater than or equal to the size of one code safety valve flange whenever the reactor head is on. According to LA1, this spec is being moved to either the TRM or the UFSAR. LA1 should be more specific on the exact relocation of this spec.

Comment: LA1 should state the exact location where CTS 3.1.A.3.a is being moved.

Entergy (IP2) Response:

IP2 will revise ITS 3.4.10, DOC LA.1, to state that requirements needed to satisfy ASME Code (i.e., at least one pressurizer code safety valve or an opening greater than or equal to the size of one code safety valve flange when below the LTOP Applicability temperature) are relocated to a licensee document controlled by 10 CFR 50.59 (i.e., TRM 3.4.E).

Entergy (IP2) Action:

IP2 will revise ITS 3.4.10, DOC LA.1, as described above.

3.4.10 : Pressurizer Safety Valves

NRC RAI Number

TAC Number:

3.4.10 - 2

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.28

CTS Table 4.1-1 number 34

LA3

CTS Table 4.1-1 number 34 lists the minimum frequencies for checks, calibrations, and tests of the safety valve position indicator (acoustic monitor) instrument channel. According to LA3, this spec is being moved to either the TRM or the UFSAR. LA3 should be more specific on the exact relocation of this spec.

Comment: LA3 should state the exact location where CTS Table 4.1-1 number 34 is being moved.

Entergy (IP2) Response:

IP2 will revise DOC 3.4.10-LA.3 to state that CTS Table 4.1-1, Item 34 (i.e., requirements for testing and monitoring of the pressurizer safety valve acoustic monitors) will be relocated to a licensee document controlled by 10 CFR 50.59 (i.e., TRM 3.4.F).

Entergy (IP2) Action:

IP2 will revise DOC 3.4.10-LA.3 as described above.

3.4.10 : Pressurizer Safety Valves

NRC RAI Number

TAC Number:

3.4.10 - 3

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.29

ITS 3.4.10

PA1

PA1 adds the word "set" to the LCO 3.4.10 statement. This proposed change is not consistent with the CTS or the STS and is not a plant specific change. Therefore, the STS 3.4.10 LCO wording should be used.

Comment: Adopt the STS LCO 3.4.10 wording.

Entergy (IP2) Response:

Addition of the word "set" to LCO 3.4.10 is commonly done to emphasize the difference between the LCO requirement that safety valves must be "set" within a narrow (i.e., 1%) range specified as the LCO limit but the safety valves are operable if the SR determines the 'as found' settings within a wider range.

Although the IP2 analysis does not support the wider plus or minus 3% range as the SR acceptance criteria at this time (As shown in SR 3.4.10.1), IP2 anticipates that this change will be made in the future. IP2 wants to maintain the word 'set' so that the LCO is identical to the IP3 LCO which includes the word 'set.' Use of the word 'set' in LCO 3.4.10 was approved for the IP3 ITS in IP3 Amendment 205.

Entergy (IP2) Action:

None.

3.4.10 : Pressurizer Safety Valves

NRC RAI Number

3.4.10 - 4

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.30

ITS 3.4.10 Applicability

PA1

CTS 3.1.A.3.b

M1

ITS Bases 3.4.10 Background third paragraph

ITS Bases 3.4.10 Applicability second paragraph

PA1 does not describe the proposed change. The proposed change adds Insert 3.4.10-01 which states "greater than the applicability temperature for LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP)." to the Applicability statement. This change was described as a more restrictive change (M1) in the CTS, however, the proposed change is not consistent with STS 3.4.10 Applicability. Since IP2 is not using a PTLR in the ITS, the actual arming temperature of 280°F should be used in the Applicability statement.

Comment: Change the wording of the of the Applicability statement to "MODE 4 with all RCS cold leg temperatures > 280°F." Correct the wording in ITS Bases 3.4.10 Background paragraph 3 and Applicability paragraph 2 to reflect this change.

Entergy (IP2) Response:

STS (NUREG-1431), LCO 3.4.10, Applicability, would appear to require a specific value for the LTOP Applicability temperature. This creates an administrative burden which will require amendments to numerous LCOs when the LTOP temperature changes. Note that STS (NUREG-1431) allows the LTOP Applicability temperature to be maintained in the PTLR (i.e., requires the operator to reference a different document to determine the LTOP Applicability Temperature). Therefore, there should be no problem maintaining the LTOP Applicability Temperature in the LTOP Applicability statement in LCO 3.4.12. This same issue is discussed in RAI 3.4.6 - 2 (NRC No. 3.4.15), RAI 3.4.7 - 2 (NRC No. 3.4.1.20(sic)), RAI 3.4.10 - 4 (NRC No. 3.4.30), RAI 3.4.10 - 5 (NRC No. 3.4.31), and RAI 3.4.12 - 13 (NRC No. 3.4.48).

Entergy (IP2) Action:

None.

3.4.10 : Pressurizer Safety Valves

NRC RAI Number

3.4.10 - 5

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.31

ITS 3.4.10 Action B.2

PA1

ITS Bases 3.4.10 Actions B.1 and B.2

PA1 does not describe the proposed change. The propose change to ITS 3.4.10 Action B.2 state "Be in MODE 4 with any RCS cold leg temperature less than or equal to LTOP Applicability temperature specified in LCO 3.4.12." Since IP2 is not utilizing the PTLR in the ITS, this action statement should reflect the actual temperature and not the applicability of LCO 3.4.12. ITS 3.4.10 Action B.2 should state the following: "Be in MODE 4 with any RCS cold leg temperature less than or equal to 280°F."

Comment: Change the wording of ITS 3.4.10 Action B.2 to "Be in MODE 4 with any RCS cold leg temperature = 280°F." Correct the wording in ITS Bases 3.4.10 Actions B.1 and B.2 to reflect this change.

Entergy (IP2) Response:

STS (NUREG-1431), LCO 3.4.10, Required Action B.2, would appear to require a specific value for the LTOP Applicability temperature. This creates an administrative burden which will require amendments to numerous LCOs when the LTOP temperature changes. Note that STS (NUREG-1431) allows the LTOP Applicability temperature to be maintained in the PTLR (i.e., requires the operator to reference a different document to determine the LTOP Applicability Temperature). Therefore, there should be no problem maintaining the LTOP Applicability Temperature in the LTOP Applicability statement in LCO 3.4.12. This same issue is discussed in RAI 3.4.6 - 2 (NRC No. 3.4.15), RAI 3.4.7 - 2 (NRC No. 3.4.1.20(sic)), RAI 3.4.10 - 4 (NRC No. 3.4.30), RAI 3.4.10 - 5 (NRC No. 3.4.31), and RAI 3.4.12 - 13 (NRC No. 3.4.48).

Entergy (IP2) Action:

None.

3.4.11 : Pressurizer Power Operated Relief Valves (PORVs)

NRC RAI Number

TAC Number:

3.4.11 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.32

ITS 3.4.11 Actions Note 1

A.4

A.4 adds Note 1 to the ITS 3.4.11 Actions Statement which states "separate condition entry is allowed for each PORV." This note was not in the CTS. The addition of this note is a less restrictive change and should be characterized as a L DOC.

Comment: Change the discussion of changes of A.4 to a L DOC.

Entergy (IP2) Response:

The ITS 3.4.11 Note that allows "Separate Condition entry" when a PORV or block valve is inoperable is not a less restrictive change to the IP2 CTS.

The ITS 3.4.11 Note that allows "Separate Condition entry" could allow as much as 6 extra days to restore redundancy for the PORV safety if one PORV (or block valve) is inoperable and a second PORV (or block valve) becomes inoperable less than 7 days later but the first PORV (or block valve) is restored before a reactor shutdown is initiated. Without "Separate Condition entry," STS (NUREG-1431) Example 1.3-2 would apply and reactor shutdown would have to commence within 8 days of the first inoperable PORV (or block valve). With "Separate Condition entry," STS (NUREG-1431) Example 1.3-5 would apply and reactor shutdown would not have to commence until 7 days after the time that the second PORV (or block valve) was declared inoperable. Therefore, the ITS "Separate Condition entry" could significantly extend the amount of time that IP2 could operate without redundancy for the PORV function when IP2 is operating under ITS.

However, as explained in ITS 3.4.11, DOC M.3, CTS 3.1.A.5 and CTS 3.16 allow IP2 to operate indefinitely with only one PORV vent path Operable. Therefore, the extra time to restore redundancy afforded by "Separate Condition entry" under ITS is still a more restrictive change that falls within the envelope of the new requirements for restoration of redundancy created by ITS 3.4.11, DOC M.3.

As stated in ITS 3.4.11, DOC A.4, addition of "Separate Condition entry" is an administrative change with no impact on safety because it is consistent with changes to the Conditions and associated Required Actions for PORVs and block valves being added by ITS which are described and justified in DOC M.3.

Entergy (IP2) Action:

None.

3.4.11 : Pressurizer Power Operated Relief Valves (PORVs)

NRC RAI Number

TAC Number:

3.4.11 - 2

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.33

CTS Table 4.1-1 number 36

LA1

CTS Table 4.1-1 number 36 lists the minimum frequencies for checks, calibrations, and tests of the PORV Actuation/Reclosure Setpoints instrument channel. According to LA1, this spec is being moved to either the TRM or the UFSAR. LA1 should be more specific on the exact relocation of this spec.

Comment: LA1 should state the exact location where CTS Table 4.1-1 number 36 is being moved.

Entergy (IP2) Response:

IP2 will revise ITS 3.4.10, DOC LA.1, to state that this DOC relocates requirements for periodic calibration of the PORV actuation and reclosure setpoints to a licensee document controlled by 10 CFR 50.59 (i.e., IP2 UFSAR 4.3.4.3).

Entergy (IP2) Action:

IP2 will revise ITS 3.4.10, DOC LA.1, as described above.

3.4.11 : Pressurizer Power Operated Relief Valves (PORVs)

NRC RAI Number

3.4.11 - 3

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.34

ITS 3.4.11 Action B.3

ITS 3.4.11 Action C.2

ITS Bases Actions B.3 and C.2

X.1

M3

M4

STS 3.4.11 Action B.3 requires the restoration of a PORV to OPERABLE status within 72 hours. STS 3.4.11 Action C.2 requires the restoration of a block valve to OPERABLE status within 72 hours. ITS 3.4.11 Actions B.3 and C.2 propose completion times of 7 days. JFD X.1 states that this change is acceptable because IP2 currently has no requirement to restore an inoperable PORV or block valve to Operable status and is voluntarily adopting this allowable out of service time consistent with the 7 day allowable out of service time approved for IP3 in amendment 207. X.1 does not provide adequate justification for the proposed change of 7 day completion time.

Comment: Provide adequate justification for the 7 day completion time for ITS 3.4.11 Actions B.3 and C.2 or use the STS 3.4.11 completion time of 72 hours. Correct the ITS 3.4.11 Bases according to the response to this RAI.

Entergy (IP2) Response:

See Resposne to RAI 3.4.11-1 also.

CTS 3.16.B and CTS 3.16.C specify no Actions if one of the two PORVs (or associated block valve) is inoperable. CTS 3.1.A.5 requires that the associated block valve is closed and de-energized when a PORV or a block valve is inoperable. There is no CTS requirement to restore redundancy for the PORV venting function when a PORV and/or block valve is inoperable.

IP2 is voluntarily adopting a significantly more restrictive change that will ensure restoration of redundancy for the PORV venting function. The IP2 and IP3 design for the PORVs and accident analysis that assume the availability of the PORV venting function are essentially identical. Wherever possible, IP2 is electing to make the IP2 and IP3 Technical Specifications identical to support the integration of the IP2 and IP3 operations and technical support groups. Therefore, IP2 is requesting approval of the IP2 ITS LCO 3.4.11 using an allowable out of service time consistent with the 7 day allowable out of service time approved for Indian Point 3 in IP3 Amendment 205.

Entergy (IP2) Action:

None.

3.4.11 : Pressurizer Power Operated Relief Valves (PORVs)

NRC RAI Number

3.4.11 - 4

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.35

ITS 3.4.11 Bases Background

Insert B3.4.11-1-01

The second paragraph of the proposed Insert B3.4.11-1-01 needs correction. The second sentence states "Even when in their role of minimizing, typically operate with the PORV block valves closed to minimize the consequences of an inadvertent opening of a PORV." As stated, this sentence is not clear.

Comment: Correct the sentence discussed above in proposed Insert B3.4.11-1-01.

Entergy (IP2) Response:

Insert B 3.4.11 - 1 - 01 will be revised to read as follows:

The PORVs and block valves also function to minimize challenges to the pressurizer safety valves. Even when in their role of minimizing challenges to the pressurizer safety valves, the plant typically operates with the PORV block valves closed to minimize the consequences of an inadvertent opening of a PORV. This configuration is acceptable because the block valves receive an automatic open signal when pressurizer pressure reaches a preset limit below the pressure at which the PORVs open (Ref. 1). Neither the PORV function of minimizing challenges to the pressurizer safety valves or the associated block valve automatic opening on high pressurizer pressure are required for Technical Specification OPERABILITY.

Entergy (IP2) Action:

IP2 will revise Insert B 3.4.11 - 1 - 01 as described above.

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

3.4.12 - 1

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.36

CTS Table 3.1.A-2

LA1

The CTS markup of Table 3.1.A-2 shows the 280°F being replaced with LTOP arming temp in PTLR. The DOC for this change is LA1. LA1 is listed as not being used in Rev. 1. Correct the CTS markup to represent the correct change.

Comment: Correct the CTS markup Table 3.1.A-2.

Entergy (IP2) Response:

IP2 will change markup of CTS Table 3.1.A-2 to show that 280 F is maintained in the ITS as LCO 3.4.12, LTOP Applicability. The numeric value for LTOP Applicability is not being relocated to the PTLR.

Entergy (IP2) Action:

IP2 will change markup of CTS Table 3.1.A-2 to show that 280 F is maintained in the ITS as LCO 3.4.12, LTOP Applicability. The numeric value for LTOP Applicability is not being relocated to the PTLR.

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

TAC Number:

3.4.12 - 2

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.37

CTS Table 3.1.A-2

M.3

ITS SR 3.4.12.8

CTS Bases

ITS Bases SR 3.4.12.8 Insert B3.4.12-13-01

CTS Table 3.1.A-2 provides the RCP startup restrictions when the OPS is operable and inoperable. CTS Bases (page 3.1.A-6) states that the RCS is protected against overpressure transients when RCS temperature is less than or equal to 280°F by:...."(2) providing administrative controls on starting of a reactor coolant pump when the primary water temperature is less than the secondary water temperature,..." RCP startup is also governed by ITS Figures 3.4.12-5 and 3.4.12-6. Based on this information, it is not clear why the RCP startup restrictions are being maintained in ITS SR3.4.12.8. The RCP startup restrictions do not meet the criteria in 50.36 for something that has to be in Technical Specifications. The starting restrictions should be handled under IP2 operating procedures. Additionally, surveillance requirements are used to demonstrate that the LCO is being met. ITS SR 3.4.12.8 does not serve this function since RCP startup restrictions are not an SSC that would make the OPS (LTOP) inoperable.

Comment: Provide additional justification/explanation as to why the RCP startup restrictions are being maintained in ITS SR 3.4.12.8. If ITS SR 3.4.12.8 is deleted and the RCP startup restrictions moved to a licensee controlled document, the associated CTS markup and ITS Bases should be corrected.

Entergy (IP2) Response:

Reactor coolant pump starting restrictions needed to ensure that an RCS pump start does not violate LTOP limits are contained in CTS Table 3.1.A-2. The various checks required by CTS Table 3.1.A are the "administrative controls on starting of a reactor coolant pump when the primary water temperature is less than the secondary water temperature" discussed in the CTS Bases (page 3.1.A-6). These 'operating restrictions' meet Criterion 2 of 10 CFR 50.36(c)(2)(ii) because they are "an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier."

These restrictions are in all material respects identical to the restrictions provided in STS (NUREG-1431) LCO 3.4.6, Note 2, and STS (NUREG-1431) LCO 3.4.7, Note 3, which state: "No RCP shall be started with any RCS cold leg temperature < [275 F] [Low Temperature Overpressure Protection (LTOP) arming temperature specified in the PTLR] unless the secondary side water temperature of each steam generator (SG) is < [50] F above each of the RCS cold leg temperatures." As explained in the Bases, this note establishes a requirement that ensures low temperature overpressure protection requirements are met. Although this requirement should be part of LCO 3.4.12, Low Temperature Overpressure Protection, they are included as Notes to LCO 3.4.6

and LCO 3.4.7 because someone believed that operators would be more likely to observe the requirement and comply if the requirement was placed in this location.

STS (NUREG-1431) LCO 3.4.6, Note 2, and STS (NUREG-1431) LCO 3.4.7, Note 3, establish stand alone LTOP requirements that do not appear anywhere else in the Technical Specifications. This was possible because the reactor coolant pump starting restrictions for the plant described in NUREG-1431 are very simple. As discussed in the response to RAI 3.4.6 - 2 (NRC No. 3.4.15) and RAI 3.4.7 - 2 (NRC No. 3.4.20), the IP2 ITS Notes in LCO 3.4.6 and 3.4.7 do not establish any technical requirements - they are a pointer to the location where the requirements are located (i.e., LCO 3.4.12). This was necessary because the IP2 LTOP restrictions for reactor coolant pump starting are very, very complex (See SR 3.4.12.8).

A similar approach was approved for the IP3 conversion to ITS in Amendment 205.

Entergy (IP2) Action:

None

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

TAC Number:

3.4.12 - 3

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.38

ITS 3.4.12 Note 4 Insert 3.4.12-1-02

ITS Bases 3.4.12 Insert B 3.4.12-7-02

Insert 3.4.12-1-02 adds Note 4 to the LCO notes which states that "SR 3.4.12.8 shall be met prior to starting a reactor coolant pump (RCP) if no other RCPs are in operation." This note is not applicable to meeting the LCO and should not be included.

Comment: Delete Note 4 of ITS Insert 3.4.12-1-02 and the associated ITS Insert B 3.4.12-7 02 Bases.

Entergy (IP2) Response:

STS (NUREG-1431) LCO 3.4.6, Note 2, and LCO 3.4.7, Note 3, establish Technical Specification restrictions on reactor coolant pump starting that prevent the plant from violating LTOP limits.

Although these requirements should be part of LCO 3.4.12, Low Temperature Overpressure Protection, they are included as Notes to LCO 3.4.6 and LCO 3.4.7 because someone believed that operators would be more likely to observe the requirement and comply if the requirement was placed in these locations.

This approach (i.e., LTOP requirements placed in ITS as Notes to LCO 3.4.6 and LCO 3.4.7) was possible because the reactor coolant pump starting restrictions for the plant described in NUREG-1431 are very simple. IP2 ITS LCO 3.4.6, Note 2, and LCO 3.4.7, Note 3, do not establish any technical requirements - these notes are pointers to the location where the requirements are located (i.e., LCO 3.4.12). This was necessary because the IP2 LTOP restrictions for reactor coolant pump starting are very, very complex (See SR 3.4.12.8).

Just like STS (NUREG-1431) uses the Notes in LCO 3.4.6 and LCO 3.4.7 to minimize the potential that an operator would miss an LTOP requirement, Note 4 to ITS LCO 3.4.12 is intended to minimize the potential that an operator would miss an LTOP requirement.

Entergy (IP2) Action:

None

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

3.4.12 - 4

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.39

ITS 3.4.12 Insert 3.4.12-2-02

ITS 3.4.12 Condition A

ITS 3.4.12 Action A2

Insert 3.4.12-2-02 provides the conditions and actions for meeting the requirements of Table 3.4.12-1. The third conditional statement states "combination of pressurizer pressure, pressurizer level and RCS temperature not within Table 3.4.12-1 limits for the number of HHSI pumps and charging pumps capable of injection into the RCS." According to Table 3.4.12-1, HHSI pumps should not be operating/injecting while in Options C, D, or E (RCS temperature, pressurizer level and pressure mode). As such, the phrase "HHSI pumps and" should be deleted from the third conditional statement of Condition A and Action A2.

Comment: Delete the phrase "HHSI pumps and" from the third conditional statement in ITS 3.4.12 Condition A and Action A2.

Entergy (IP2) Response:

According to Table 3.4.12-1, no (i.e., 0) HHSI pumps should be capable of operating/injecting while in Options C, D, or E (RCS temperature, pressurizer level and pressure mode). Option C, D, or E (RCS temperature, pressurizer level and pressure mode) may not be met because HHSI pump is capable of operating/injecting while the plant is supposed to be in Option C, D, or E. Therefore, IP2 believes that it is prudent to include the stipulation about the HHSI pumps in part 3 of ITS 3.4.12, Condition A.

Entergy (IP2) Action:

None.

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

TAC Number:

3.4.12 - 5

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.40

ITS 3.4.12 Condition B

PA1

PA1 adds the word "properly" to the Condition B statement. This change is neither generic in nature nor plant specific. The STS 3.4.12 Condition C wording should be maintained.

Comment: Maintain the STS 3.4.12 Condition C wording in ITS 3.4.12 Condition B (except for the PTLR statement).

Entergy (IP2) Response:

STS (NUREG-1431) LCO 3.4.12 requires that "accumulators shall be isolated," STS (NUREG-1431) SR 3.4.12.3 requires verification that "accumulators are isolated" every 12 hours, and STS (NUREG-1431) LCO 3.4.12, Condition C, specifies an action for "An accumulator not isolated" (i.e., isolate the accumulator). The purpose of these requirements is to prevent exceeding LTOP limits by the inadvertent injection of a pressurized accumulator into the RCS. IP2 noted that if the plant is in Condition C (i.e., accumulator not isolated), then it is too late to isolate the accumulator because LTOP limits have already been violated. The STS (NUREG-1431) Bases for LCO 3.4.12, SR 3.4.12.3 and Condition C do not provide any insight into this situation. However, the Applicable Safety Analyses section of the Bases states: "The isolated accumulators must have their discharge valves closed and the valve power supply breakers fixed in their open positions." To eliminate any ambiguity, IP2 changes SR 3.4.12.3 to read as follows: "Verify each accumulator discharge isolation valve is closed and power removed." Additionally, the Bases for LCO 3.4.12, SR 3.4.12.3 and Condition C were clarified to explain that "accumulator isolated" means accumulator isolated and power removed. One final part of this clarification was the change of Condition C from "An accumulator not isolated" to "An accumulator not 'properly' isolated" to alert operators to the concept that "isolated" means "isolated with power removed."

Entergy (IP2) Action:

None

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

3.4.12 - 6

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.41

ITS 3.4.12 Condition E

ITS Bases 3.4.12 Condition E, statement c.

The third conditional statement of ITS 3.4.12 Condition E states "LTOP inoperable for any reason other than Condition A or D." This proposed wording is not consistent with the STS and should include Conditions B and C. Otherwise, Condition E could be entered if Conditions B or C were not met. The associated ITS Bases should also be revised.

Comment: Include Conditions B and C to the third conditional statement of ITS 3.4.12 Condition E and revise the associated ITS Bases.

Entergy (IP2) Response:

IP2 will revise the third conditional statement of ITS 3.4.12 Condition E, to read: "LTOP inoperable for any reason other than Condition A, B, C or D."

Entergy (IP2) Action:

IP2 will revise the third conditional statement of ITS 3.4.12 Condition E, to read: "LTOP inoperable for any reason other than Condition A, B, C or D."

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

TAC Number:

3.4.12 - 7

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.42

ITS 3.4.12 Action E.1

Insert 3.4.12-3-01

CTS 3.1.A.4.b

CLB1

CTS 3.1.A.4.b states that "if both PORVs or their associated block valves are inoperable, action shall be initiated immediately to place the reactor in a condition where OPS operability is not required." Insert 3.4.12-3-01 Action E.1 states "initiate action to reduce the number of HHSI pumps and charging pumps capable of injecting into the RCS consistent with Table 3.4.12-1." These two statements are not the same and no justification for differences was provided.

Comment: Correct insert 3.4.12-3-01 to maintain the current licensing basis or provide a JFD for the proposed change.

Entergy (IP2) Response:

CTS 3.1.A.4.b states that "if both PORVs or their associated block valves are inoperable, action shall be initiated immediately to place the reactor in a condition where OPS operability is not required." CTS does not provide any guidance as to what is required to "place the reactor in a condition where OPS operability is not required." ITS LCO 3.4.11, Required Actions E.1 and E.2, were added to provide that guidance.

With no PORVs (i.e., Table 3.4.12-1, Options A and B cannot be met), the options for placing the plant in a Condition where PORVs are not required are the following: 1) heatup to above the LTOP Applicability temperature; 2) establish pressurizer level and pressure and injection capability consistent with Table 3.4.12-1, Options C, D or E; or, 3) depressurize and establish a vent and injection capability consistent with Table 3.4.12-1, Options F, G, H or I.

Although plant heatup to above the LTOP Applicability temperature is not prohibited, Required Actions that direct a plant heatup when LTOP requirements are not met may not be prudent. Establishing pressurizer level and pressure and injection capability consistent with Table 3.4.12-1, Options C, D or E is always an option and need not be explicitly stated. Therefore, Required Action E.2 requires operators to depressurize and establish a vent and injection capability consistent with Table 3.4.12-1, Options F, G, H or I within 8 hours. Required Action E.1, "reduce number of HHSI pumps and charging pumps capable of injecting into the RCS...immediately" was added to minimize the potential for an overpressure event while the plant is being depressurized and a vent path established.

The reasons that Required Action E.1 and E.2 were added are explained in both ITS 3.4.12, DOC L.1, and the ITS Bases for Required Action E.1 and E.2.

Entergy (IP2) Action:

None

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

TAC Number:

3.4.12 - 8

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.43

ITS SR 3.4.12.2

Insert 3.4.12-3-04

Insert 3.4.12-3-04 provides the surveillance requirements for meeting the requirements of Table 3.4.12-1 when in Options C, D, or E. The SR statement states "verify that the combination of pressurizer pressure, pressurizer level and RCS temperature is within the limits of the Figure specified in Table 3.4.12-1 for the number of HHSI pumps and charging pumps capable of injection into the RCS." According to Table 3.4.12-1, HHSI pumps should not be operating/injecting while in Options C, D, or E (RCS temperature, pressurizer level and pressure mode). As such, the phrase "HHSI pumps and" should be deleted from ITS SR 3.4.12.2.

Comment: Delete the phrase "HHSI pumps and" from ITS SR 3.4.12.2.

Entergy (IP2) Response:

According to Table 3.4.12-1, no (i.e., 0) HHSI pumps should be capable of operating/injecting while in Options C, D, or E (RCS temperature, pressurizer level and pressure mode). Therefore, SR 3.4.12.2 must include verification that 0 HHSI pumps are capable of operating/injecting while in Options C, D, or E.

Entergy (IP2) Action:

None

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

TAC Number:

3.4.12 - 9

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.44

ITS 3.4.12 Table 3.4.12-1

Option I

Comment: Add "square" in between "5" and "inch" for the relief capacity or vent size of Option I on ITS Table 3.4.12-1.

Entergy (IP2) Response:

IP2 will revise ITS 3.4.12, Table 3.4.12-1, Option I, to read: "greater than or equal to 5 square inches."

Entergy (IP2) Action:

IP2 will revise ITS 3.4.12, Table 3.4.12-1, Option I, to read: "greater than or equal to 5 square inches."

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

3.4.12 - 10

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.45

ITS Bases 3.4.12 Applicable Safety Analyses

ITS 3.4.12 Applicability

The second sentence of ITS Bases 3.4.12 Applicable Safety Analyses adds the word "all" to state "In MODES 1, 2, and 3, and MODE 4 with all RCS cold leg temperature exceeding..." The word all is not consistent with the proposed wording in the ITS 3.4.12 Applicability statement which uses the word "any."

Comment: Correct the Bases or ITS Applicability statements such that are consistent with the use of the word "all" or "any".

Entergy (IP2) Response:

Use of the word "all" in the phrase "all RCS cold leg temperatures exceeding 280 F" in the second sentence of the Applicable Safety Analysis in the Bases for ITS 3.4.12 is correct as written. LTOP is required when "any" RCS loop is blow the LTOP applicability and Pressurizer Safety valves are required when all RCS loops are above the LTOP applicability temperature.

Sentence is describing the condition when RCS over pressure protection is provided by the pressurizer safety valves and LTOP is not required.

Entergy (IP2) Action:

None

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

3.4.12 - 11

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.46

ITS Bases 3.4.12 Applicable Safety Analyses

Page B 3.4.12-4

On page B 3.4.12-4, the ITS proposes to delete portions of the STS Applicable Safety Analyses based on the current licensing basis. However, the following should be maintained in the ITS Bases since it is applicable.

"The following are required during the LTOP MODES to ensure that mass and heat input transients do not occur, which either of the LTOP overpressure protection means cannot handle:

- b. Deactivating the accumulator discharge isolation valves in their closed positions, and
- c. Disallowing start of an RCP if secondary temperature is more than [50] °F above primary temperature in any one loop. LCO 3.4.6, 'RCS Loops - MODE 4' and LCO 3.4.7, 'RCS Loops - MODE 5, Loops Filled,' provide this protection."

Comment: Include the quoted portion of the STS 3.4.12 Applicable Safety Analyses Bases into the ITS Bases.

Entergy (IP2) Response:

IP2 did not include the statement "Deactivating the accumulator discharge isolation valves in their closed positions" because it is addressed in the Bases for the LCO and SR 3.4.12.3.

IP2 did not include the statement "Disallowing start of an RCP if secondary temperature is more than [50] °F above primary temperature in any one loop. LCO 3.4.6, 'RCS Loops - MODE 4' and LCO 3.4.7, 'RCS Loops - MODE 5, Loops Filled,' provide this protection" because it is not true for IP2. IP2 RCP starting restrictions are in SR 3.4.12.8.

Entergy (IP2) Action:

None

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

TAC Number:

3.4.12 - 12

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.47

ITS Bases 3.4.12 Action E.1

ITS Bases 3.4.12 Action E.1 proposes to state that "the vent must be consistent with RCS injection capability to ensure that the flow capacity is greater than that required for the worst case mass input transient reasonable during the applicable MODES." The proposed wording is vague and should be more specific. The staff proposes the following: "the vent must be consistent with Table 3.4.12-1 Options F, G, H, or I to ensure that the flow..." With the staff's proposed modification, Insert B 3.4.12-10-02 is not required.

Comment: Modify the ITS Bases 3.4.12 Action E wording to specifically address the vent size.

Entergy (IP2) Response:

IP2 will revise the Bases for ITS LCO 3.4.12, Required Action E.1, to replace "consistent with RCS injection capability" with "consistent with Table 3.4.12-1 Options F, G, H, or I" as recommended by the staff. IP2 will retain B 3.4.12-10-02 as written.

Entergy (IP2) Action:

IP2 will revise the Bases for ITS LCO 3.4.12, Required Action E.1, to replace "consistent with RCS injection capability" with "consistent with Table 3.4.12-1 Options F, G, H, or I" as recommended by the staff.

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

TAC Number:

3.4.12 - 13

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.48

ITS Bases 3.4.12 SR 3.4.12.6

The ITS Bases 3.4.12 SR 3.4.12.6 is modified to state "performance of a COT is required within 12 hours after decreasing RCS temperature to less than or equal to LTOP Applicability temperature and..." This proposed word is not consistent with the ITS SR 3.4.12 wording which uses 280°F. The ITS Bases SR 3.4.12.6 should be corrected to match the ITS SR 3.4.12.6 wording.

Comment: Correct the ITS Bases SR 3.4.12.6 wording to state 280°F.

Entergy (IP2) Response:

The Applicability statement for LCO 3.4.12, LTOP, is "Mode 4 when any RCS cold leg temperature is less than or equal to 280 F." Note to SR 3.4.12.6 is "Not required to be performed until 12 hours after decreasing RCS cold leg temperature to less than or equal to 280 F." ITS Bases that describes and explains Note to SR 3.4.12.6 uses the term "LTOP Applicability Temperature" instead of repeating the number "280 F" because use of the descriptive term instead of repeating the number value provides a better description of what the requirement is trying to accomplish. This is a minor editorial improvement.

Entergy (IP2) Action:

None.

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

TAC Number:

3.4.12 - 14

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.49

ITS 3.4.12 DOC A4

Comment: A4 could not be located in the CTS markup but it is listed in the DOC section.

Entergy (IP2) Response:

IP2 will revise the markup of CTS 3.1.A.4.a to show that the CTS term "armed and operable" is replaced with the term "Operable" as described in DOC A.4.

Entergy (IP2) Action:

IP2 will revise the markup of CTS 3.1.A.4.a to show that the CTS term "armed and operable" is replaced with the term "Operable" as described in DOC A.4.

3.4.12 : Low Temperature Overpressure Protection (LTOP)

NRC RAI Number

TAC Number:

3.4.12 - 15

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.50

ITS 3.4.12 DOC LA3.

Comment: LA3 could not be located in the CTS markup but it is listed in the DOC section.

Entergy (IP2) Response:

IP2 will mark ITS 3.4.12, DOC LA.3, as not used. Information on CTS Table 3.1.A-2(page 2 of 2) that a vent of 2.00 inches square is equal to 1 PORV fully open was originally relocated. However, ITS Table 3.4.12-1 will retain that information in the ITS.

Entergy (IP2) Action:

IP2 will mark ITS 3.4.12, DOC LA.3, as not used.

3.4.13 : RCS Operational LEAKAGE

NRC RAI Number

3.4.13 - 1

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.51

CTS 3.1.F.2.a(1)

ITS 3.4.13 Completion Time B.2

L1

CTS 3.1.F.2.a(1) requires that any steam generator tube leakage greater than 150 gpd, the reactor shall be brought to the cold shutdown condition within 24 hours. L1 provides the justification for the 4 hour completion time in ITS 3.4.13 Action A.1 but does not provide any justification for the increase time to bring the reactor to MODE 5 (CTS has 24 hours versus ITS 3.4.13 Action B2 has 36).

Comment: Provide justification for the change in completion time to MODE 5 from 24 hours to 36 hours or retain the CTS completion time of 24 hours.

Entergy (IP2) Response:

The description of ITS LCO 3.4.13, DOC L.1, states: "CTS 3.1.F.2.a.(1) requires that the reactor be in cold shutdown (Mode 5) within 24 hours if requirements for primary to secondary leakage are not met. Under the same conditions, ITS 3.4.13, Required Actions A.1, B.1 and B.2, allow 4 hours to attempt to restore leakage to within limits and, if unsuccessful, require that the plant be in Mode 3 in the following 6 hours and Mode 5 in 36 hours." The justification for change for ITS LCO 3.4.13, DOC L.1, uses the same justification provided in the Bases of NUREG-1431 (i.e., "the allowed Completion Times to perform the plant shutdown are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.")

Entergy (IP2) Action:

None.

3.4.13 : RCS Operational LEAKAGE

NRC RAI Number

TAC Number:

3.4.13 - 2

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.52

CTS Basis paragraph e

CTS page 3.1.F-7

Relocated Requirement R-11

CTS Markup page 3.1.F-7

CTS Relocated Requirement page 3.1.F-7 Revision 1 has paragraph e marked as R.11. The CTS markup page 3.1.F-7 Revision 1 has the entire page including paragraph e marked as A1. Revision 1 of the relocated requirement page and revision 1 of the CTS markup page are not consistent.

Comment: Provide the correct markup for the relocation requirement R-11 or basis reformatting (A1) for page 3.1.F.

Entergy (IP2) Response:

In ITS Package 3.4.13 (RCS Operational LEAKAGE), CTS Markup pages 3.1.F-5, 3.1.F-6, 3.1.F-7, 3.1.F-8, 3.1.F-9 are CTS Bases pages which are annotated as being deleted. This is explained in DOC A.1. In ITS Package R.11 (Leakage into the Containment Free Volume (and associated requirements)), selected paragraphs from the CTS Bases pages 3.1.F-7, 3.1.F-8, 3.1.F-9 are identified as being related to the information being relocated. These CTS Bases paragraphs are not required to be relocated but were identified as an administrative aid to ensure that the information was related to the requirements being relocated and, if appropriate, relocated with the associated requirements.

Entergy (IP2) Action:

None

3.4.13 : RCS Operational LEAKAGE

NRC RAI Number

3.4.13 - 3

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.53

ITS Bases 3.4.13 Applicable Safety Analysis

ITS LCO 3.4.13

STS LCO 3.4.13.d

CLB1

STS Bases LCO 3.4.13.d

ITS LCO 3.4.13 is not adopting STS LCO 3.4.13.d which would require 1 gpm total primary to secondary LEAKAGE through all steam generators (SGs) since it is not part of the current licensing basis. However, ITS Bases 3.4.13 Applicable Safety Analysis discusses the safety analysis for an event resulting in steam discharge to the atmosphere. This analysis assumes a 1.2 gpm primary to secondary leakage as an initial condition. Since the 1.2 gpm primary to secondary leakage through all SGs is an initial condition of an accident or transient analysis, STS LCO 3.4.13.d meets criterion 2 of 10 CFR 50.36 and therefore should be adopted into the ITS.

Comment: Adopt STS LCO 3.4.13.d and add the associated section into the ITS Bases LCO 3.4.13.

Entergy (IP2) Response:

The IP2 primary to secondary leakage rate of 150 gallons per day in any steam generator in CTS 3.1.F.2 was established by CTS Amendment 226. The 150 gallons per day limit comes from Section 2.3.3 of NEI 97-06, Steam Generator Program Guidelines, Rev. 1, which states that monitoring and limiting primary to secondary leakage is an important defense in depth measure for monitoring overall tube integrity during operation. SG leakage monitoring and the associated limit allows operators to safely respond to situations in which tube integrity becomes impaired before significant leakage or tube failure occurs. Additionally, leakage is an important tool for assessing the effectiveness of the steam generator inspection program.

As stated in Insert B 3.4.13 - 2 - 02 of ITS LCO 3.4.13, the analysis of the radiological consequences of a steam line break (i.e., the limiting event for primary to secondary leakage) assumed a primary to secondary leakage rate of 1.2 gallons per minute (or 0.3 gpm for each of the 4 steam generators). The reference for this is the SER for CTS Amendment 211 supporting adoption of Alternate Source Term Limits in 10 CFR 50.67. This leakage rate of 1.2 gallons per minute (or 0.3 gpm for each of the 4 steam generators) is equal to 1,728 gallons per day (432 gallons per day for each of the 4 steam generators).

The limit of 150 gallons per day of primary to secondary leakage in CTS 3.1.F.2 and ITS 3.4.13.d is significantly more restrictive than the limit of 1,728 gallons per day (432 gallons per day for each of the 4 steam generators) used in the analysis of a steam line break. CTS 3.1.F.2 and ITS 3.4.13.d both use only the more restrictive limit.

Note that the Bases for ITS LCO 3.4.13 assume that IP2 will adopt the program in NEI 97-06, Steam Generator Program Guidelines, Rev. 1, as ITS 5.5.7, Steam Generator (SG) Tube Surveillance Program. However, IP2 will maintain its existing Steam Generator (SG) Tube Surveillance Program because NEI 97-06 has not yet been endorsed by the NRC.

Entergy (IP2) Action:

IP2 will revise the Bases of ITS LCO 3.4.13 to clarify that TS 5.5.7, Steam Generator (SG) Tube Surveillance Program, will maintain existing CTS requirements and will not be based on NEI 97-06, Steam Generator Program Guidelines, Rev. 1.

3.4.14 : Pressure Isolation Valve (PIV) Leakage

NRC RAI Number

TAC Number:

3.4.14 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.54

ITS SR 3.4.14.1 Frequency

CTS 4.16.A.5

A6

ITS Bases SR 3.4.14.1

PA1

A6 discusses the replacement of the CTS 4.16.A.5 wording "every time the plant is placed in the cold shutdown condition for refueling," with "24 months and IST program." However, the ITS SR 3.4.14.1 Frequency shown in the markup does not include the 24 month frequency and only requires "In accordance with the Inservice Testing Program." Additionally, the ITS Bases for SR 3.4.14.1 discusses that testing is to be performed every 24 months. The ITS SR 3.4.14.1 Frequency in the ITS markup is not consistent with the proposed changes to the CTS and the ITS Bases.

Comment: Correct the ITS SR 3.4.14.1 Frequency to show the testing frequency to be "In accordance with the Inservice Testing Program and 24 months."

Entergy (IP2) Response:

IP2 will revise the Frequency for ITS SR 3.4.14.1 to include the phrase "and 24 months."

Entergy (IP2) Action:

IP2 will revise the Frequency for ITS SR 3.4.14.1 to include the phrase "and 24 months."

3.4.14 : Pressure Isolation Valve (PIV) Leakage

NRC RAI Number

TAC Number:

3.4.14 - 2

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.55

CTS Basis last paragraph on page 3.1.F-8

Relocated Requirement R-11

CTS Markup pages 3.1.F-8 and 3.1.F-9

CTS Relocated Requirement page 3.1.F-8 Revision 1 has the last paragraph marked as R.11. The CTS markup page 3.1.F-8 Revision 1 has the entire page including the last paragraph marked as A1. Revision 1 of the relocated requirement page and revision 1 of the CTS markup page are not consistent.

Comment: Provide the correct markup for the relocation requirement R-11 or basis reformatting (A1) for pages 3.1.F-8 and 3.1.F-9.

Entergy (IP2) Response:

In ITS Package 3.4.14 (Pressure Isolation Valve (PIV) Leakage), CTS Markup pages 3.1.F-7, 3.1.F-8, 3.1.F-9 are CTS Bases pages shown as being deleted as explained in DOC A.1. In ITS Package R.11 (Leakage into the Containment Free Volume (and associated requirements)), selected paragraphs from the CTS Bases pages 3.1.F-7, 3.1.F-8, 3.1.F-9 are identified as being related to the information being relocated. These CTS Bases paragraphs are not required to be relocated but were identified as an administrative aid to ensure that the information was related to the requirements being relocated and, if appropriate, relocated with the associated requirements.

Entergy (IP2) Action:

None.

3.4.15 : RCS Leakage Detection Instrumentation

NRC RAI Number

TAC Number:

3.4.15 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.56

CTS Table 4.1-1 item 21e

LA1

CTS Table 4.1-1 number 21e lists the minimum frequencies for checks, calibrations, and tests of the containment fan cooler condensate flow instrument channel. According to LA1, this spec is being moved to either the TRM or the UFSAR. LA1 should be more specific on the exact relocation of this spec.

Comment: LA1 should state the exact location where CTS Table 4.1-1 number 21e is being moved.

Entergy (IP2) Response:

IP2 will revise ITS 3.4.15, DOC LA.1, to state that this DOC relocates requirement for a monthly visual inspection of the weirs used in the containment fan cooler condensate flow monitoring system to a licensee document controlled by 10 CFR 50.59 (i.e., IP2 UFSAR Section 4.2.7).

Entergy (IP2) Action:

IP2 will revise ITS 3.4.15, DOC LA.1, as described above.

3.4.16 : RCS Specific Activity

NRC RAI Number

TAC Number:

3.4.16 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.4.57

ITS 3.4.16 Condition C

M3

X1

The ITS markup for the second condition of 3.4.16 Condition C is not consistent with the 3.4.16 Required Action A.1. Specifically, Required Action A.1 requires the verification of DOSE EQUIVALENT I-131 is = 60 $\mu\text{Ci/gm}$ and does not reference the acceptable region of Figure 3.4.16-1. The second condition of 3.4.16 Condition C refers to the acceptable region of Figure 3.4.16-1. IP2 did not adopt Figure 3.4.16-1 in its conversion. The ITS Bases for Condition C correctly reflects the limit of 60 $\mu\text{Ci/gm}$.

Comment: Correct the ITS markup for ITS 3.4.16 Condition C.

Entergy (IP2) Response:

IP2 will correct the typographical error in ITS 3.4.15, Condition C.

Entergy (IP2) Action:

IP2 will correct the typographical error in ITS 3.4.15, Condition C.

3.5.1 : Accumulators

NRC RAI Number

3.5.1 - 1

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.5.01

ITS 3.5.1 Condition A

PA1

PA1 adds "of SR 3.5.1.4" to the end of ITS 3.5.1 Condition A statement. This change is neither plant specific nor consistent with the current technical specifications. The STS wording should be maintained.

Comment: Maintain the STS wording for ITS 3.5.1 Condition A.

Entergy (IP2) Response:

STS (NUREG-1431), LCO 3.5.1, requires that: "Four ECCS accumulators shall be Operable." STS (NUREG-1431), SR 3.5.1.4 requires verification that "boron concentration in each accumulator is greater than or equal to 2000 ppm and less than or equal to 2500 ppm. STS (NUREG-1431), LCO 3.5.1, Condition A is "One accumulator inoperable due to boron concentration not within limits."

IP2 ITS LCO 3.5.1, Condition A was revised to read "One accumulator inoperable due to boron concentration not within limits 'of SR 3.5.1.4'."

IP2 will revise IP2 ITS LCO 3.5.1, Condition A, and Required Action A.1, to delete the phrase "of SR 3.5.1.4."

Entergy (IP2) Action:

IP2 will revise IP2 ITS LCO 3.5.1, Condition A, and Required Action A.1, to delete the phrase "of SR 3.5.1.4."

3.5.1 : Accumulators

NRC RAI Number

TAC Number:

3.5.1 - 2

MB4739

NRC Request for Additional Information (RAI):

RAI 3.5.02

ITS SR 3.5.1.2

ITS SR 3.5.1.4

X1

CLB

Page 3.5.1-2 of the ITS lists X1 and CLB for changes associated with ITS SR 3.5.1.2 and SR 3.5.1.4. X1 and CLB are not defined in the JFD section of ITS 3.5.1.

Comment: Defined X1 and CLB in the JFD section of ITS 3.5.1.

Entergy (IP2) Response:

IP2 will revise the markup of STS (NUREG-1431) to delete the reference to JFD X.1 for ITS SR 3.5.1.2 because no significant changes were made to ITS SR 3.5.1.2.

IP2 will revise the Package for ITS 3.5.1 to include JFD CLB.1 which will explain that IP2 is maintaining current Technical Specifications and is not adopting the explicit requirement in NUREG-1431, SR 3.5.1.4, for verification of accumulator boron concentration within 6 hours after a significant change in accumulator level. Verification of boron concentration after a level change will ensure that inleakage into the accumulator does not result in accumulator boron concentration falling below required limits. IP2 uses administrative controls to maintain minimum boron concentration well above the limits of SR 3.5.1.4. Therefore, the 31 day Frequency is sufficient to ensure that accumulator boron concentration is maintained within required limits.

Entergy (IP2) Action:

IP2 will revise the Package for ITS 3.5.1 to include JFD CLB.1 which will explain that IP2 is not adopting the explicit requirement in NUREG-1431, SR 3.5.1.4, for verification of accumulator boron concentration within 6 hours after a significant change in accumulator level.

3.5.1 : Accumulators

NRC RAI Number

3.5.1 - 3

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.5.03

ITS SR 3.5.1.2

CTS 3.3.A.1.c

ITS SR 3.5.1.2 requires the verification of borated water volume in each accumulator to be less than or equal to 920 cubic feet. CTS 3.3.A.1.c requires a maximum water volume of 875 cubic feet. The proposed limit of 920 cubic feet is not consistent with the current TS. No explanation for the change was provided.

Comment: Use the CTS value of 875 cubic feet or provide adequate justification for using 920 cubic feet in the surveillance requirement.

Entergy (IP2) Response:

CTS 3.3.A.1.c correctly identifies the analytical limits for accumulator upper and lower level limits. This was confirmed in Table 14.3-5-A and Calculation FIX-0045-02, dated July 15, 2001. ITS SR 3.5.1.2 incorrectly listed the top of span as the upper limit.

IP2 will revise ITS SR 3.5.1.2 to specify the upper limit as 875 cubic feet. Based on Calculation FIX-0045-02, the ITS Bases will be revised to read as follows.

The large break LOCA analysis assumes a 795 ft³ accumulator water volume. Variations in volume are addressed as initial condition uncertainty. The small break LOCA analysis results are not sensitive to accumulator water volume differences. The safety analysis assumes analytical limits for accumulator volume of greater than 723 cubic feet and less than 875 cubic feet. To allow for instrument inaccuracy, administrative limits for accumulator volume of greater than 763 cubic feet and less than 835 cubic feet, are used.

Entergy (IP2) Action:

IP2 will revise ITS SR 3.5.1.2 and the Safety Analysis and SR sections of the Bases as described above.

3.5.1 : Accumulators

NRC RAI Number

3.5.1 - 4

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.5.04

ITS SR 3.5.1.4

CTS 3.3.A.1.c

ITS SR 3.5.1.4 requires the verification of boron concentration in each accumulator to be less than or equal to 2500 ppm. CTS 3.3.A.1.c requires a boron concentration of at least 2000 ppm. The 2500 ppm does not appear in the current TS. No explanation was provided for the upper limit of 2500 ppm.

Comment: Provide adequate justification for the use of 2500 ppm as an upper limit in ITS SR 3.5.1.4.

Entergy (IP2) Response:

IP2 will add ITS 3.5.1, DOC M.7, and revise the markup of CTS 3.3.A.1.c to show the addition of the new requirement for an upper limit for boron concentration in the ECCS accumulators. The justification for the change will be that an upper limit on boron concentration is used to determine the maximum allowable time to switch to hot leg recirculation following a LOCA. The purpose of switching from cold leg to hot leg injection is to avoid boron precipitation in the core following the accident. This justification is already contained in the Bases for ITS LCO 3.5.1.

Entergy (IP2) Action:

IP2 will add ITS 3.5.1, DOC M.7, and revise the markup of CTS 3.3.A.1.c to show the addition of the new requirement for an upper limit for boron concentration in the ECCS accumulators.

3.5.2 : ECCS - Operating

NRC RAI Number

TAC Number:

3.5.2 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.5.05

CTS 4.5.A.1.a

CTS 4.5.A.1.a shows the deletion of the following phrase: "With the Reactor Coolant System pressure less than or equal to 350 psig and temperature less than or equal to 350°F..." No discussion of changes was included on the CTS for the deletion of this phrase.

Comment: Provide a DOC for the proposed change.

Entergy (IP2) Response:

CTS 4.5.A.1.a contains the phrase "With the Reactor Coolant System pressure less than or equal to 350 psig and temperature less than or equal to 350°F..." to ensure that actuation testing of the Safety Injection System (i.e., High Head Safety Injection Pumps and the RHR pumps) is performed in Conditions equivalent to ITS Mode 4. The phrase "With the Reactor Coolant System pressure less than or equal to 350 psig and temperature less than or equal to 350°F..." in CTS 4.5.A.1.a and the statement in CTS 4.5.A.1.b are currently annotated as being relocated to the ITS Bases by DOC LA.3.

IP2 will revise ITS Package 3.5.1 to delete the statements in CTS 4.5.A.1.a and CTS 4.5.A.1.b rather than relocate them to the Bases with DOC LA.3 as is currently shown.

The phrase "With the Reactor Coolant System pressure less than or equal to 350 psig and temperature less than or equal to 350°F..." in CTS 4.5.A.1.a will be deleted because, at IP2, testing of the Safety Injection System (i.e., High Head Safety Injection Pumps and the RHR pumps) is performed in Mode 5 consistent with the clarification in the ITS Bases that testing must be performed "under conditions that apply during a plant outage."

CTS 4.5.A.1.b will be deleted because it is a generic statement of what constitutes acceptable test results without providing any specific requirements.

Entergy (IP2) Action:

IP2 will revise ITS Package 3.5.1 to delete the statements in CTS 4.5.A.1.a and CTS 4.5.A.1.b rather than relocate them to the Bases with DOC LA.3 as is currently shown.

3.5.2 : ECCS - Operating

NRC RAI Number

3.5.2 - 2

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.5.06

ITS Bases 3.5.2 Applicable Safety Analyses

Insert B.3.5.2-04-01

Insert B.3.5.2-04-01 needs clarification, specifically the phrase "while the train was assumed to operate in the calculation of containment backpressure." It is not clear what this phrase adds to the Bases. Is containment backpressure required to ensure the remaining two trains operate? Is this part of the IP2 design basis?

Comment: Clarify the ITS Bases Insert B.3.5.2-04-01.

Entergy (IP2) Response:

ITS 3.5.2 Bases Insert B 3.5.2 - 4 - 01 states:

A large break LOCA event, with loss of offsite power and 'the loss of one of the three safeguards power trains is assumed for the determination of pumped Emergency Core Cooling System (ECCS) flow during the LOCA, while the train was assumed to operate in the calculation of containment backpressure. This will conservatively bound the possible single failures (UFSAR 14.3.3.2).'

IP2 will revise this insert to read as follows:

A large break LOCA event, with loss of offsite power and the loss of one of the three safeguards power trains is assumed for the determination of pumped Emergency Core Cooling System (ECCS) flow during the LOCA. "However, all three safeguards power trains were assumed to operate in the calculation of containment backpressure. This will conservatively bound the possible single failures (UFSAR 14.3.3.2)."

Entergy (IP2) Action:

IP2 will revise ITS 3.5.2 Bases Insert B 3.5.2 - 4 - 01 to read as described above.

3.5.3 : ECCS - Shutdown

NRC RAI Number

TAC Number:

3.5.3 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.5.07

ITS 3.5.3

M1

The CTS does not contain requirements for an operable ECCS train in Mode 4. IP2 has voluntarily adopted STS 3.5.3 with modifications. M1 describes the adoption of ITS 3.5.3. However, the description of changes section of M1 is not complete and M1 does not explain why the HHSI is not required in Mode 4. M1 justification should be expanded to include the reasons why (design basis and/or Chapter 14 analyses) HHSI is not needed or required to be Operable in Mode 4.

Comment: Expand the M1 DOC to explain why HHSI is not needed or required to be Operable in Mode 4.

Entergy (IP2) Response:

The maximum reactor coolant system (RCS) saturation pressure in Mode 4 (i.e., <350 F) is approximately 120 psig.

RHR pump is rated at 3000 gpm at a design head of 350 feet which is equivalent to 152 psig. (Refer to FSAR Table 6.2-7, RHR Pump Design Parameters). The RHR pump performance curve, UFSAR Figure 6.2-7, Residual Heat Removal Pump Performance, indicates that the RHR pump discharge pressure remains above the maximum RCS saturation pressure even at flow rates exceeding 4000 gpm. Although the charging pumps and the high head safety injection pumps (if available) would be used to attempt to maintain pressurizer level during a loss of inventory event in Mode 4, the RHR pump will be capable of delivering coolant to the RCS at the same rate as is assumed in the analysis of a LOCA initiated from Mode 1. Therefore, IP2 will adopt requirements for ECCS in Mode 4 consistent with those already approved for IP3 (i.e., one RHR pump and one Recirculation pump shall be operable in Mode 4).

Entergy (IP2) Action:

IP2 will revise ITS 3.5.3, DOC M.1, to include the discussion presented above.

3.5.4 : Refueling Water Storage Tank (RWST)

NRC RAI Number

TAC Number:

3.5.4 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.5.08

CTS Table 4.1-2 Item 3

M2

The CTS markup of Table 4.1-2 Item 3 shows the change of minimum time between tests from 45 days to the requirements of ITS SR 3.0.2. M2 is listed as the justification for this change. However, M2 does not discuss this change.

Comment: Provide the appropriate discussion of changes for CTS Table 4.1-2 Item 3.

Entergy (IP2) Response:

IP2 will revise the markup of CTS T 4.1-2, Item 3, to show the limitation on changes to SR Frequency are imposed by ITS SR 3.0.2 and will add ITS 3.5.4, DOC M.5 which will read as follows:

CTS T 4.1-2, Item 3, specifies that the Frequency for verification of RWST boron concentration is 31 days and that the maximum time between accumulator boron concentration verification should never exceed 45 days. ITS SR 3.5.4.3 maintains the requirement to verify boron concentration in the RWST every 31 days; however, ITS SR 3.0.2 limits any extension to the 31 day SR interval to an additional 25% (to approx. 39 days).

This change is needed to establish consistent allowances for extending SR Frequencies consistent with ITS SR 3.0.2. This change is acceptable because it does not introduce any operation that is un-analyzed while requiring more timely verification that analysis assumptions regarding the Operability of RWST are satisfied.

Entergy (IP2) Action:

IP2 will revise the markup of CTS T 4.1-2, Item 3, to show the limitation on changes to SR Frequency are imposed by ITS SR 3.0.2 and will add ITS 3.5.4, DOC M.5, as described above.

3.5.4 : Refueling Water Storage Tank (RWST)

NRC RAI Number

3.5.4 - 2

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.5.09

ITS 3.5.4 Condition A

ITS 3.5.4 Condition A proposes to add the applicable surveillance requirements to the end of the condition statements. These proposed changes are not consistent with the CTS or the STS. No plant specific justification was provided for the proposed changes.

Comment: Maintain the STS wording for ITS 3.5.4 Condition A.

Entergy (IP2) Response:

IP2 ITS 3.5.4, Condition A, reads as follows:

"RWST boron concentration not within limits of SR 3.5.4.3.

OR

RWST borated water temperature not within limits of SR 3.5.4.1."

IP2 will revise ITS 3.5.4, Condition A, to read as follows:

RWST boron concentration not within limits.

OR

RWST borated water temperature not within limits.

Entergy (IP2) Action:

IP2 will revise ITS 3.5.4, Condition A, to read as follows:

RWST boron concentration not within limits.

OR

RWST borated water temperature not within limits.

3.5.4 : Refueling Water Storage Tank (RWST)

NRC RAI Number

TAC Number:

3.5.4 - 3

MB4739

NRC Request for Additional Information (RAI):

RAI 3.5.10

ITS 3.5.4 Condition B

Insert 3.5.4-1-01

ITS SR 3.5.4.4

Insert 3.5.4-2-01

ITS Bases 3.5.4 Inserts B.3.5.4-4-01, B.3.5.4-4-02, B.3.5.4-5-01, and B.3.5.4-6-01

ITS 3.5.4 Insert 3.5.4-1-01 adds Condition B which requires the restoration of the RWST level low low alarm to OPERABLE status within 7 days if one of the two required channels of the RWST level low low alarm is inoperable. The location of this proposed change is not consistent with the standard technical specification and should be located in ITS 3.3.2. The associated surveillance requirement, ITS SR 3.5.4.4, should also be located in ITS 3.3.2. Additionally, no justification was provided for the proposed location of Condition B and SR 3.5.4.4.

Comment: Relocate ITS 3.5.4 Condition B, SR 3.5.4.4, and the associated Bases inserts to ITS 3.3.2 and adjust the ITS 3.5.2 (sic) conditions accordingly.

Entergy (IP2) Response:

The ESFAS design modeled in the STS (NUREG-1431) includes an ESFAS function that provides automatic switchover from the safety injection mode to the recirculation mode of operation based on a low low level in the RWST coincident with a safety injection signal. The IP2 and IP3 ESFAS design differs from the design described in the STS (NUREG-1431) because it does not include this automatic switchover from injection mode to recirculation mode. At IP2 and IP3, the switchover function is performed manually by the operator who must be alerted by redundant alarms that annunciate RWST level low low. The switchover to the cold leg recirculation phase is manually initiated when the RWST level has reached the low low alarm setpoint and sufficient coolant inventory to support pump operation in recirculation mode is verified to be in the containment.

In the CTS, the RWST level alarm is included as part of the RWST LCO. Although a case can be made for including this function as part of ITS LCO 3.3.2, ESFAS, ITS LCO 3.3.3, Post Accident Monitoring, or ITS LCO 3.5.4, RWST, the RWST level alarm function was maintained as part of ITS LCO 3.5.4, RWST, during the IP3 conversion to ITS. This approach was approved for Indian Point 3 in Amendment 205. IP2 included the RWST level alarm as part of ITS LCO 3.5.4 for consistency with IP3.

Entergy (IP2) Action:

None.

3.5.4 : Refueling Water Storage Tank (RWST)

NRC RAI Number

TAC Number:

3.5.4 - 4

MB4739

NRC Request for Additional Information (RAI):

RAI 3.5.11

ITS 3.5.4 Condition D

ITS 3.5.4 Condition D adds the phrase "of Condition A, B, or C" to the condition statement. This change is not consistent with the STS.

Comment: Maintain the STS wording for STS 3.5.4 Condition C.

Entergy (IP2) Response:

IP2 will revise ITS 3.5.4, Condition D, to delete the phrase "of Conditions A, B or C."

Entergy (IP2) Action:

IP2 will revise ITS 3.5.4, Condition D, to delete the phrase "of Conditions A, B or C."

3.5.4 : Refueling Water Storage Tank (RWST)

NRC RAI Number

3.5.4 - 5

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 3.5.12

ITS Bases Applicable Safety Analyses

DB

Pages B 3.5.4-2 and B 3.5.4-3 delete the discussion in the Bases about the importance of the minimum and maximum boron concentration. Since the minimum and maximum boron concentrations are in the ITS, these discussions should be included in the ITS Bases. The JFD DB for the deletion of these paragraphs did not provide adequate justification for the deletion.

Comment: Provide adequate justification for the deletion of the paragraphs on Bases pages listed above or maintain the STS wording as applicable to the facility (i.e., since IP2 does not have a BIT, the BIT information does not have to be maintained).

Entergy (IP2) Response:

STS (NUREG-1431) LCO 3.5.4, Safety Analyses Section of the Bases, include the discussion related to the upper and lower limits for boron concentration:

"The minimum boron concentration is an explicit assumption in the main steam line break (MSLB) analysis to ensure the required shutdown capability. The importance of its value is small for units with a boron injection tank (BIT) with a high boron concentration. For units with no BIT or reduced BIT boron requirements, the minimum boron concentration limit is an important assumption in ensuring the required shutdown capability. The maximum boron concentration is an explicit assumption in the inadvertent ECCS actuation analysis, although it is typically a nonlimiting event and the results are very insensitive to boron concentrations."

"The upper limit on boron concentration of [2200] ppm is used to determine the maximum allowable time to switch to hot leg recirculation following a LOCA. The purpose of switching from cold leg to hot leg injection is to avoid boron precipitation in the core following the accident."

IP2 ITS Bases for LCO 3.5.4 maintained the following discussion in the Bases which explain the reasons for both the upper and lower boron concentration limits:

"The minimum boron concentration is an explicit assumption in the main steam line break (MSLB) analysis to ensure the required shutdown capability."

"The upper limit on boron concentration of 2500 ppm is used to determine the maximum allowable time to switch to hot leg recirculation following a LOCA. The purpose of switching from cold leg to hot leg injection is to avoid boron precipitation in the core following the accident."

IP2 ITS Bases for LCO 3.5.4 deleted the following discussion in the Bases:

"The importance of its value is small for units with a boron injection tank (BIT) with a high boron concentration. For units with no BIT or reduced BIT boron requirements, the minimum boron concentration limit is an important assumption in ensuring the required shutdown capability. The maximum boron concentration is an explicit assumption in the inadvertent ECCS actuation analysis, although it is typically a nonlimiting event and the results are very insensitive to boron concentrations."

The first and second sentences were deleted because IP2 does not credit the use of a BIT and the statement that "minimum boron concentration limit is an important assumption in ensuring the required shutdown capability" is already included in a previous sentence that was maintained. The last sentence was deleted because the inadvertent ECCS actuation event is not addressed in the IP2 reload accident analysis.

Entergy (IP2) Action:

None.

3.5.4 : Refueling Water Storage Tank (RWST)

NRC RAI Number

TAC Number:

3.5.4 - 6

MB4739

NRC Request for Additional Information (RAI):

RAI 3.5.13

DOCs A3 and A5

DOCs A3 and A5 refer the reader to DOC LA1. LA1 does not exist in the CTS markup, ITS 3.5.2 or in the DOCs.

Comment: Delete the reference to LA1.

Entergy (IP2) Response:

IP2 will delete the cross reference to DOC LA.1 in DOCs A.3 and A.5.

Entergy (IP2) Action:

IP2 will delete the cross reference to DOC LA.1 in DOCs A.3 and A.5.

3.8.2 : AC Sources - Shutdown

NRC RAI Number

TAC Number:

3.8.2 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.8.2-1

ITS 3.8.2.B, JFD DB2

Insert 3.8.2-2-01 is not consistent with NUREG 1431, Rev 2. In that the marked up page. Conjunction AND (sic) is used in place of word OR (sic). The staff deems that when one or more required DG[s] is [are] inoperable, CORE ALTERATION must be suspended immediately.

Comment: The licensee to provide detailed justifications or adopt wording AND as currently required in the NUREGs STS after 3.8.2.ACTION B.1.

Entergy (IP2) Response:

Background:

STS (NUREG-1431) LCO 3.8.2 is based on a plant with two divisions (i.e., two safeguards power trains) with one DG supporting each of the safeguards power trains. One safeguards train is capable of responding to any event with the second safeguards capable of responding mitigating the effect of any random single failure. Therefore, in Modes 5 and 6, STS (NUREG-1431) LCO 3.8.2, requires Operability of 1 of the 2 offsite sources and 1 of the 2 DGs when in Mode 5 and 6. This is acceptable, as explained in the Bases for STS (NUREG-1431) LCO 3.8.2, Technical Specifications maintain plant capability to mitigate the consequences of postulated accidents; however, postulation of a single failure and concurrent loss of all offsite or all onsite power is not required in Modes 5 and 6.

Under STS (NUREG-1431), when the one required offsite source is not Operable, STS LCO 3.8.2, Required Actions A.1 and A.2, provide the following options: 1) Immediately declare affected required feature(s) with no offsite power available inoperable; or 2) Immediately suspend any activity that is a precursor to either a fuel handling accident or a dilution event. NOTE: STS (NUREG-1431) specifies that required features that have offsite power available do not have to be declared inoperable and activities that are precursors to a fuel handling accident or a dilution event may continue if the equipment needed to support those activities is still Operable and meet the requirements of LCO 3.8.2 (i.e., each feature required to be Operable is still supported by both an Operable DG and an offsite source).

Under STS (NUREG-1431), when the one required DG is not Operable, STS (NUREG-1431) LCO 3.8.2, Required Actions B.1 through B.4, require immediate suspension of any activity that is a precursor to either a fuel handling accident or a dilution event. The option of allowing activities that are precursors to a fuel handling accident or a dilution event to continue is not presented because STS (NUREG-1431) LCO 3.8.2, Condition B, assumes there are no Operable DGs. Therefore, even if the equipment needed to support precursor activities is still Operable, none of the equipment still meets the requirements of LCO 3.8.2 (i.e., the required equipment is not supported by both an offsite source and an Operable DG).

Indian Point 2:

The IP2 design is different from the design modeled for STS (NUREG-1431) LCO 3.8.2. The IP2 design consists of three safeguards power trains with one DG supporting each of the safeguards power trains. Any two of the three safeguards power trains are capable of responding to any event with the third safeguards train capable of mitigating the effect of any random single failure. Consistent with the logic used for STS (NUREG-1431) LCO 3.8.2, IP2 ITS LCO 3.8.2, requires Operability of only 1 of the 2 offsite sources and only 1 of the 2 DGs when in Mode 5 and 6.

Under proposed ITS LCO 3.8.2, Condition A, when the one required offsite source is not Operable, IP2 LCO 3.8.2 maintains requirements identical to STS (NUREG-1431): 1) Immediately declare affected required feature(s) with no offsite power available inoperable; or 2) Immediately suspend any activity that is a precursor to either a fuel handling accident or a dilution event.

Under proposed ITS LCO 3.8.2, Condition B, when one or both of the two required DGs are inoperable, LCO 3.8.2, Required Actions B.1 and B.2, provide the following options: 1) Immediately declare affected required feature(s) with no DG available inoperable; or 2) Immediately suspend any activity that is a precursor to either a fuel handling accident or a dilution event. NOTE: IP2 Required Action B.1 differs from STS (NUREG-1431) in that required features that are supported by an Operable DG do not have to be declared inoperable and activities that are precursors to a fuel handling accident or a dilution event may continue if the equipment needed to support those activities is still Operable and meet the requirements of LCO 3.8.2 (i.e., each feature required to be Operable is still supported by both an Operable DG and an offsite source).

The addition of required IP2 ITS Action B.1, "Declare affected required features with no DG available inoperable," is acceptable because the IP2 design would enable it to respond to many accidents postulated in Modes 5 and 6 with only one safeguards power train. This is especially true since the IP2 accident analysis is now based on 10 CFR 50.67, Alternate Source Term. As explained in the SER for IP2 Amendment 211, IP2 does not require containment ventilation or isolation, control room ventilation or isolation or fuel storage building ventilation or isolation to meet 10 CFR 50.67 limits following a fuel handling accident that occurs more than 100 hours after reactor shutdown.

Note that only two of the three safeguards power trains support an RHR pump, the wording of IP2 ITS Action B.1 will prevent using the IP2 ITS Action B.1 option if the inoperable DG is supporting a required RHR pump. In this respect, IP2 ITS Action B.1 is more conservative than STS (NUREG-1431) LCO 3.8.2 which will allow the required RHR pump to be associated with the DG that is not required to be Operable.

IP2 CTS do not specify any requirements for DG Operability in Modes 5 and 6. IP2 is voluntarily adopting the more restrictive requirements in IP2 ITS LCO 3.8.2. However, the proposed IP2 ITS LCO 3.8.2 is designed to allow the maximum flexibility afforded by the IP2 design.

Entergy (IP2) Action:

None

3.8.3 : Diesel Fuel Oil and Starting Air

NRC RAI Number

TAC Number:

3.8.3 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.8.3-1

ITS LCO 3.8.3.B.1, INSERT B.3.8.3-3-01, JFD DB1

Proposed ITS LCO 3.8.3.B.1 has a Completion time of 2 hour while INSERT B.3.8.3.-01 shown a completion time of "immediately" which also is in agreement with that stated in the Marked-up Bases B.3.8.3-3-01.

Comment: The licensee to correct Completion time to as "immediately" to agree with the proposed Bases B.3.8.3-3-01.

Entergy (IP2) Response:

IP2 will revise the Completion Time for LCO 3.8.3, Required Action B.1, to "Immediately."

Entergy (IP2) Action:

IP2 will revise the Completion Time for LCO 3.8.3, Required Action B.1, to "Immediately."

3.8.3 : Diesel Fuel Oil and Starting Air

NRC RAI Number

TAC Number:

3.8.3 - 2

MB4739

NRC Request for Additional Information (RAI):

RAI 3.8.3-2

ITS SR 3.8.3.1, INSERT B.3.8.3-5-01, JFD None

The proposed INSERT B.3.8.3-5-01 for ITS SR 3.8.3.1 contains a NOTE which is not in the NUREG 1431 for STS SR 3.8.3.1, and the proposed BASES for ITS SR 3.8.3.1 does not explain the need for the existence of the proposed NOTE.

Comment: Why the change from the STS and a justification is not provided?

Entergy (IP2) Response:

Fuel oil for the three IP2 DGs is stored in two different locations: 1) Each of the three DGs has an associated fuel oil storage tank that contains a minimum of 6334 gallons; and, 2) the DG fuel oil reserve has an additional 29,000 gallons of diesel fuel that is maintained in onsite storage tanks. In Modes 1, 2, 3 and 4, both the associated fuel oil storage tanks and the DG fuel oil reserve must be available. In Modes 5 and 6, only the associated fuel oil storage tank must be available.

IP2 ITS SR 3.8.3.1 requires IP2 to "Verify reserve storage tank(s) contain >29,000 gallons of fuel oil reserved for IP2 use only." This SR is modified by a Note that states "Only required to be met in MODES 1, 2, 3 and 4." This Note provides recognition that the fuel oil in the reserve storage tank(s) is required to be available only when in Modes 1, 2, 3 and 4.

IP2 will revise the Bases for ITS SR 3.8.3.1 to include the clarification that "This SR must be met only when the fuel oil in the reserve storage tank(s) is required to be available in Modes 1, 2, 3 and 4.

Entergy (IP2) Action:

IP2 will revise the Bases for ITS SR 3.8.3.1 to include the clarification that "This SR must be met only when the fuel oil in the reserve storage tank(s) is required to be available in Modes 1, 2, 3 and 4.

3.8.3 : Diesel Fuel Oil and Starting Air

NRC RAI Number

TAC Number:

3.8.3 - 3

MB4739

NRC Request for Additional Information (RAI):

RAI 3.8.3-3

ITS SR 3.8.3.4, INSERT B.3.8.3-5-03, JFD None

The proposed INSERT B.3.8.3-5-03 for ITS SR 3.8.3.4 contains a NOTE which is not in the NUREG 1431 for STS SR 3.8.3.3 and the proposed BASES for ITS SR 3.8.3.4 does not explain the need for the existence of the proposed NOTE.

Comment: Why the change from the STS and a justification is not provided?

Entergy (IP2) Response:

Fuel oil for the three IP2 DGs is stored in two different locations: 1) Each of the three DGs has an associated fuel oil storage tank that contains a minimum of 6334 gallons; and, 2) the DG fuel oil reserve has an additional 29,000 gallons of diesel fuel that is maintained in onsite storage tanks. In Modes 1, 2, 3 and 4, both the associated fuel oil storage tanks and the DG fuel oil reserve must be available. In Modes 5 and 6, only the associated fuel oil storage tank must be available.

IP2 ITS SR 3.8.3.4 requires IP2 to "Verify that fuel oil properties of new and stored fuel oil in the reserve storage tank(s) are within limits specified in the Diesel Fuel Oil Testing Program." This SR is modified by a Note that states "Only required to be met in MODES 1, 2, 3 and 4." This Note provides recognition that the fuel oil in the reserve storage tank(s) is required to be available only when in Modes 1, 2, 3 and 4.

IP2 will revise the Bases for ITS SR 3.8.3.4 to include the clarification that "This SR must be met only when the fuel oil in the reserve storage tank(s) is required to be available in Modes 1, 2, 3 and 4."

Entergy (IP2) Action:

IP2 will revise the Bases for ITS SR 3.8.3.4 to include the clarification that "This SR must be met only when the fuel oil in the reserve storage tank(s) is required to be available in Modes 1, 2, 3 and 4."

3.8.4 : DC Sources - Operating

NRC RAI Number

TAC Number:

3.8.4 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.8.4-1

ITS LCO 3.8.3.4, ACTION A, INSERT 3.8.4-1-02, JFD DB.2, CTS 3.7.B.5, CTS 3.7.B.6, DOCs L1, M1

The proposed INSERT 3.8.4-1-02 for ITS LCO 3.8.3.4 is not consistent with that of STS NUREG-1431, Rev 1, and the proposed ACTION wording "... is supplied from an OPERABLE DC electrical power subsystem" is rather confusing and thus not consistent with the required Class 1E's separation criteria. Additionally the proposed ACTION A1.1 and ACTION A1.2 are not mutually exclusive.

Comment: Why the change from the STS and a justification is not provided? The licensee should retain the STS wording or modifies the proposed ACTION wording in both ITS and the associated proposed BASES.

Entergy (IP2) Response:

IP2 adoption of STS (NUREG-1431) LCO 3.8.4, Condition A:

In April 2001, STS (NUREG-1431) LCO 3.8.4, Condition A, was revised to allow a battery charger to be inoperable for 7 days if battery terminal voltage is verified within limits within 2 hours and float current is verified to be consistent with a fully charged battery every 12 hours. IP2 did not adopt the new Condition A in the original submittal of the IP2 ITS conversion because IP2 does not have installed capability to monitor float current. IP2 does have the capability to monitor float current using a clamp on DC ammeter. Therefore, IP2 will adopt the relaxation provided by Condition A of LCO 3.8.4 of STS (NUREG-1431), Rev.2. Condition A will allow a battery charger to be inoperable for 7 days if battery terminal voltage was verified within limits within 2 hours and float current was verified to be consistent with a fully charged battery every 12 hours. The acceptance criteria for the 12 hour verification of float current will be "< 5 amps." This acceptance criteria was chosen because the accuracy of the clamp on DC ammeter is limited because of the configuration of the battery cables. The combination of verification that battery terminal voltage is verified within limits within 2 hours and verification that float current is "< 5 amps" will ensure that battery charge is maintained while the charger is inoperable.

Explanation of Insert 3.8.4 - 1- 02:

The IP2 design differs from the design modeled in STS (NUREG-1431) in that the IP2 design provides for the automatic transfer of both DC control power and the vital instrument bus to an alternate source of power. This design difference was used as the justification for extending the Completion Time for restoration of an inoperable battery from the 2 hours allowed in STS (NUREG-1431) to the 24 hours in the proposed IP2 ITS 3.8.4. Insert 3.8.4 - 1- 02 adds Conditions and Required Actions and Insert 3.8.4 - 2 - 02 adds a surveillance necessary to implement this change. A detailed explanation of the IP2 design and the supporting Condition, Require Actions and Surveillance is provided in the IP2 ITS Bases for LCO 3.8.4. Additional information concerning the IP2 design for automatic transfer of both DC control power was provided to Saba Saba from the NRR staff on August 13, 2002 during the NRR review of IP2 ITS 3.8.4.

Entergy (IP2) Action:

IP2 will adopt the relaxation provided by Condition A of LCO 3.8.4 of STS (NUREG-1431), Rev.2, in conjunction with adopting a requirement for monitoring battery float current.

3.9.3 : Residual Heat Removal (RHR) and Coolant Circulation - High Water Level

NRC RAI Number

TAC Number:

3.9.3 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.9.3-1

ITS 3.9.3 RHR AND COOLANT CIRCULATION-HIGH WATER LEVEL

STS 3.9.5 RHR AND COOLANT CIRCULATION-HIGH WATER LEVEL

ITS LCO 3.9.3 NOTE

DOC M.1

JFD PA.1

The wording of the LCO Note has been changed from, "... may be not in operation for less than or equal to ..." to, "... may be stopped for up to ...".

Comment: The NEI Technical Specifications Task Force (TSTF) has submitted TSTF-438 which proposes that the Note use the phrase, "... may be removed from operation ...". The proposed ITS wording could mislead the operator into believing that the pump could be inoperable for that time, rather than just not in operation. Suggest adopting the TSTF-438 wording in the LCO and associated Bases.

Entergy (IP2) Response:

RAI 3.4.5 - 1 (NRC No. 3.4.08), RAI 3.4.6 - 1 (NRC No. 3.4.14), RAI 3.4.7 - 1 (NRC No. 3.4.19), RAI 3.4.8 - 1 (NRC No. 3.4.22), RAI 3.9.3-1, and RAI 3.9.4-1 all address the issue of the STS (NUREG-1431) Note intended to allow forced flow in the RCS to be stopped for some defined period of time. The wording for these Notes in STS (NUREG-1431) used the phrase "pumps may be de-energized for < 1 hour per 8 hour period." TSTF-153 made the Notes more awkward by adopting the phrase "pumps may be not in operation for < 1 hours per 8 hour period." As yet unapproved TSTF-438 proposes the more ambiguous phrase "pumps may be removed from operation for < 1 hour per 8 hour period." This Note has caused and continues to cause considerable confusion. Confusion is caused primarily by the inequality sign prior to the time limit and philosophical discussions about the difference between the terms "stopped," "de-energized," and "not in operation." The intent of the Note is to allow all forced flow in the RCS to be stopped for up to 1 hour in any 8 hour period. Therefore, IP2 will maintain the language proposed in the IP2 submittal (e.g., "pumps may be stopped for up to 1 hour per 8 hour period"). IP2 believes that substitution of the term "stopped for up to 1 hour" for "be not in operation for 1 hour" results in a significant improvement in clarity with no change to the technical requirement.

Entergy (IP2) Action:

None

3.9.4 : Residual Heat Removal (RHR) and Coolant Circulation - Low Water Level

NRC RAI Number

TAC Number:

3.9.4 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 3.9.4-1

ITS 3.9.4 RHR AND COOLANT CIRCULATION-LOW WATER LEVEL

STS 3.9.6 RHR AND COOLANT CIRCULATION-LOW WATER LEVEL

ITS LCO 3.9.4 NOTE

DOC M.1

JFD PA.1

The wording of the LCO Note has been changed from, "... may be de-energized for less than or equal to ..." to, "... may be stopped for up to ...".

Comment: The NEI Technical Specifications Task Force (TSTF) has submitted TSTF-438 which proposes that the Note use the phrase, "... may be removed from operation ...". The proposed ITS wording could mislead the operator into believing that the pump could be inoperable for that time, rather than just not in operation. Suggest adopting the TSTF-438 wording in the LCO and associated Bases.

Entergy (IP2) Response:

RAI 3.4.5 - 1 (NRC No. 3.4.08), RAI 3.4.6 - 1 (NRC No. 3.4.14), RAI 3.4.7 - 1 (NRC No. 3.4.19), RAI 3.4.8 - 1 (NRC No. 3.4.22), RAI 3.9.3-1, and RAI 3.9.4-1 all address the issue of the STS (NUREG-1431) Note intended to allow forced flow in the RCS to be stopped for some defined period of time. The wording for these Notes in STS (NUREG-1431) used the phrase "pumps may be de-energized for < 1 hours per 8 hour period." (Except LCO 3.9.4, Residual Heat Removal (RHR) and Coolant Circulation - Low Water Level, which limits the no flow condition to 15 minutes when switching from one loop to another.) TSTF-153 made the Notes more awkward by adopting the phrase "pumps may be not in operation for < 1 hour per 8 hour period." As yet unapproved TSTF-438 proposes the more ambiguous phrase "pumps may be removed from operation for < 1 hour per 8 hour period." This Note has caused and continues to cause considerable confusion. Confusion is caused primarily by the inequality sign prior to the time limit and philosophical discussions about the difference between the terms "stopped," "de-energized," and "not in operation." The intent of the Note is to allow all forced flow in the RCS to be stopped for up to 1 hour in any 8 hour period. Therefore, IP2 will maintain the language proposed in the IP2 submittal (e.g., "pumps may be stopped for up to 1 hour per 8 hour period"). IP2 believes that substitution in LCO 3.9.4 of the term "stopped for up to 15 minutes" for "be not in operation for < 15 minutes" results in a significant improvement in clarity with no change to the technical requirement.

Entergy (IP2) Action:

None

3.9.4 : Residual Heat Removal (RHR) and Coolant Circulation - Low Water Level

NRC RAI Number

TAC Number:

3.9.4 - 2

MB4739

NRC Request for Additional Information (RAI):

RAI 3.9.4-2

ITS B3.9.4 RHR AND COOLANT CIRCULATION-LOW WATER LEVEL

STS B3.9.6 RHR AND COOLANT CIRCULATION-LOW WATER LEVEL

ITS BASES for ACTIONS B.3, B.4, B.5.1, and B.5.2

JFD (PA.1?)

The ITS changes the wording in the last sentence of the second paragraph of Bases to Required Actions B.3, B.4, B.5.1, and B.5.2 from, "... containment penetrations are either closed or can be closed so that the dose limits are not exceeded" to, "... containment penetrations are either closed or can be closed to limit the potential for a release to the environment."

Comment: Why the change; a justification is not provided?

Entergy (IP2) Response:

IP2 will revise the Bases for LCO 3.9.5, RHR and Coolant Circulation - Low Water Level, to retain the wording "so that the dose limits are not exceeded" in the Bases for Required Actions B.3, B.4 and B.5.

Entergy (IP2) Action:

IP2 will revise the Bases for LCO 3.9.5, RHR and Coolant Circulation - Low Water Level, to retain the wording "so that the dose limits are not exceeded" in the Bases for Required Actions B.3, B.4 and B.5.

4.0 : DESIGN FEATURES

NRC RAI Number

4.0 - 1

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 4.0.01 ITS 4.3.1.2

ISTS, Rev.2, 04/30/01 for TS 4.1.3.2.d (sic) states:

A nominal [10.95] inch center to center distance between fuel assemblies placed in the storage rack.

Indian Point 2, ITS 4.3.1.2.d states:

A sufficient center to center distance between fuel assemblies placed in the storage racks to meet the limit for Keff.

Comment: For Indian Point 2 TS 4.3.1.2 d, a plant specific value of center to center distance between fuel assemblies in the storage racks is needed as in the brackets of the ISTS.

Entergy (IP2) Response:

CTS do not include detailed design information about the new fuel storage racks. IP2 FSAR Table 9.5-1 specifies that the center to center spacing of the new fuel rack is 20.5 inches. IP2 will revise ITS 4.3.1.2.c to specify that the center to center spacing of the new fuel rack is 20.5 inches.

Entergy (IP2) Action:

IP2 will revise ITS 4.3.1.2.c to specify that the center to center spacing of the new fuel rack is 20.5 inches.

4.0 : DESIGN FEATURES

NRC RAI Number

4.0 - 2

TAC Number:

MB4739

NRC Request for Additional Information (RAI):

RAI 4.0.02 ITS 4.3.1.2

CTS 5.4.2.A The new fuel storage rack is designed so that it is impossible to insert assemblies in other than an array of vertical fuel assemblies with a sufficient center to center distance

ITS 4.3.1.2.d states:

A sufficient center to center distance between fuel assemblies placed in the storage racks to meet the limit for Keff.

ISTS, Rev.2, 04/30/01 for TS 4.1.3.2.d states:

A nominal [10.95] inch center to center distance between fuel assemblies placed in the storage rack.

Comment: For Indian Point 2 TS 4.3.1.2 d, a plant specific value of center to center distance between fuel assemblies in the storage racks is needed as in the brackets of the ISTS.

Entergy (IP2) Response:

CTS do not include detailed design information about the new fuel storage racks. IP2 FSAR Table 9.5-1 specifies that the center to center spacing of the new fuel rack is 20.5 inches. IP2 will revise ITS 4.3.1.2.c to specify that the center to center spacing of the new fuel rack is 20.5 inches.

Entergy (IP2) Action:

IP2 will revise ITS 4.3.1.2.c to specify that the center to center spacing of the new fuel rack is 20.5 inches.

5.0 : ADMINISTRATIVE CONTROLS

NRC RAI Number

TAC Number:

5.0 - 1

MB4739

NRC Request for Additional Information (RAI):

RAI 5.0.01 ITS 5.5.7---Steam Generator (SG) Tube Surveillance Program

CTS4.13—Marked with LA.1 which means to be relocated

STS5.5.7—Marked with insert 5.5.7/5.5-6-1-01, and the DOC Summary stated that pending approval of NEI 97-06, Steam Generator Program Guidelines, IP-2 ITS5.5.7 and CTS 4.1.3 will establish requirements to develop and maintain a program for SG Condition Monitoring Assessment, Performance Criteria, Tube Repair Criteria and Repair Methods and associated reporting requirements.

Comment: Recently the licensee indicated that the approval of NEI 97-06 is uncertain, and this will affect the direction of the ITS 5.5.7 conversion. What will be the new plan for the conversion of ITS 5.5.7 from Entergy Nuclear Operation, Inc. if NEI 97-06 is not approved?

Entergy (IP2) Response:

The SG Tube Inspection Program based on NEI 97-06, Steam Generator Program Guidelines, has not yet been endorsed by the NRC. Therefore, IP2 will incorporate all existing SG tube inspection program requirements into ITS 5.5.7.

Entergy (IP2) Action:

IP2 will incorporate all existing SG tube inspection program requirements into ITS 5.5.7.